

Competition and Adaptation 4

QUESTION 1

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	has thorns / prickles / points (these) hurt animal	answer to be marked as a whole accept sharp points allow frighten animal only accept prevent animal eating leaves if qualified by 'hurting' or 'frightening'	1 1
b)	camouflaged / looks like twig / disguised (animal) cannot see / detect / recognise it	answer to be marked as a whole allow blends in ignore too small to see allow animal does not eat twigs only accept prevents animal eating it if qualified by 'seeing' or 'wrong food'	1 1
c)	red / colour warns that insect might be poisonous / dangerous	answer to be marked as a whole allow inedible / tastes bad	1 1
Total marks			6

QUESTION 2

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	there are no / few predators of the lionfish or spines protect lionfish from predation or no / fewer disease organisms predators / prey in Atlantic do not recognise lionfish or not fished by humans also there is abundant food in Atlantic or there is no / less competition in Atlantic	allow warning colouration / poisonous allow high reproduction ignore adaptation to new environment	1 1 1
Total marks			3

QUESTION 3

QUESTION	ANSWER	EXTRA INFORMATION	MARKS						
a)	<table border="1"> <thead> <tr> <th>Level 1 (1-2 marks)</th> <th>Level 2 (3-4 marks)</th> <th>Level 3 (5-6 marks)</th> </tr> </thead> <tbody> <tr> <td>There is at least one example of an adaptation of either an animal or a plant. However it may not be clear how the adaptation helps the organism to avoid being eaten.</td> <td>There is a description of an adaptation of at least one animal and at least one plant. It is clear how at least one of these adaptations helps the organism to avoid being eaten.</td> <td>There are clear and detailed descriptions of a range of adaptations of named animals and named plants. It is clear how most of these adaptations help the organisms to avoid being eaten.</td> </tr> </tbody> </table>	Level 1 (1-2 marks)	Level 2 (3-4 marks)	Level 3 (5-6 marks)	There is at least one example of an adaptation of either an animal or a plant. However it may not be clear how the adaptation helps the organism to avoid being eaten.	There is a description of an adaptation of at least one animal and at least one plant. It is clear how at least one of these adaptations helps the organism to avoid being eaten.	There are clear and detailed descriptions of a range of adaptations of named animals and named plants. It is clear how most of these adaptations help the organisms to avoid being eaten.		
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	<p>examples of clear and detailed biology points made in response:</p> <p>camouflage – the method of camouflage should be described plus a statement that the predator is less likely to see the prey</p> <p>mimicry / warning colouration – the method should be described plus a statement that the predator is likely to confuse the prey with e.g. a poisonous organism</p> <p>thorns / prickles / spines / horns – a statement that these are sharp and are likely to hurt a predator</p> <p>long limbs / streamlining – a statement that these increase speed and make it more likely that prey will outrun predator</p> <p>bad taste / poison – a statement that predator will find this unpleasant and ‘spit out’ prey / not attack same prey again</p> <p>large ears / position of eyes – a statement that predators will be detected earlier so the prey can escape sooner</p>								
Total marks			6						

QUESTION 4

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	looks like a leaf so predator less likely to / won't see it	allow 'camouflage' as alternative to either point	1 1
b)i)	thorns (of acacia tree) hurt (predators)	allow idea that fewer animals / predators live in trees or ground living animals can't reach them (in the trees)	1
b)ii)	(giraffe) avoids being bitten by	allow ants are poisonous / have	1

	ants	unpleasant taste	
c)	looks like / mimics a wasp or has warning colouration so predators think it has a sting		1 1
Total marks			6

QUESTION 5

QUESTION	ANSWER			EXTRA INFORMATION	MARKS	
a)	0 marks	Level 1 (1-2 marks)	Level 2 (3-4 marks)	Level 3 (5-6 marks)		
	No relevant content.	At least one way in which animals and / or plants are adapted to survive.	A description of ways in which animals and / or plants are adapted and an attempt to link at least one adaptation to how it increases the chance of survival.	A description of ways in which animals and plants are adapted and a description of how at least one adaptation increases the chance of survival.		
	<p>examples of biology points made in the response:</p> <p>(animals)</p> <ul style="list-style-type: none"> • (A) change / decrease in surface area / example <ul style="list-style-type: none"> o (decrease in surface area which) reduces area from which sweat / water may be lost • (A) hump with fat / fat stores <ul style="list-style-type: none"> o (fat in hump) to convert to water (via respiration) • (A) long eyelashes <ul style="list-style-type: none"> o (long eyelashes) to keep (wind-blown) dust out of eyes • (A) nocturnal / 'keep out of the sun' <ul style="list-style-type: none"> o reduce sweat loss (in heat of the day) <p>(plants)</p> <ul style="list-style-type: none"> • (A) decrease in surface area • (A) leaves are spikes <ul style="list-style-type: none"> o (reduced area / leaves are spikes) reduces water loss / transpiration / evaporation • (A) long / wide spread / extensive roots <ul style="list-style-type: none"> o (long / wide spread /extensive roots) to absorb (more) water 			<p>extra information</p> <p>allow adaptations of specific animals to living in specified dry conditions, eg a desert</p> <ul style="list-style-type: none"> • (A) change / increase in surface area / example <ul style="list-style-type: none"> o (increase in surface area which) increases area heat may be lost from (by radiation) • (A) changes to thickness of insulating coat <ul style="list-style-type: none"> o (thicker coat on upper surface) increases insulation from sun's heat • (A) thin (layer) / reduced amount of body fat <ul style="list-style-type: none"> o (reduced amount of body fat which) reduces insulating layer • (A) wide feet <ul style="list-style-type: none"> o (wide feet) to reduce pressure / spread weight / prevent sinking <p>allow adaptations of specific plants to living in specified dry conditions, eg a desert</p> <ul style="list-style-type: none"> • (A) thick wax <ul style="list-style-type: none"> o (thick wax) to reduce evaporation / water loss / transpiration • (A) few(er) stomata <ul style="list-style-type: none"> o (few stomata) to reduce evaporation 		

	<ul style="list-style-type: none">• (A) fleshy / thick stemo (fleshy / thick stem) to store water	/ water loss / transpiration	
Total marks			6