Culling of sharks to protect swimmers on our beaches.

Criterion D Response may include:

- 1. Introduction
 - a. What is meant by culling sharks?
 - b. Why are sharks being culled? (Use data to explain)- include references.
- 2. A labelled diagram of a food-web that includes the shark.
 - i. Indicate where the shark is in the food-web
 - What label would you give the shark relative to its position in the food chain.
 - what are its food sources?
 - identify all the food sources for the shark.
 - A small discussion, with examples, of how the complex food-web is impacted if the shark population is allowed to increase or decrease.
 Include the terms Producers, first order consumers, second order consumers and apex predators.
- 3. A discussion on how culling sharks impacts on <u>one</u> of the following factors. For your factor use data and reference sources.

Economic / Social	 impacts on tourist towns income source for rural communities loss of rural tourist communities.
Moral	– Is it right or wrong to cull sharks?– What is an alternative ?
Political	 Are the politicians right to cull sharks? - Are politicians protecting people (swimmers) by culling sharks?
Ethical	 is it right to cull sharks when humans are the ones intruding in their environment? is their ever a time when culling is necessary or is there a more humane way of controlling the population. Is there a good reason to cull sharks. how is culling different to the current meat industry where animals are slaughtered for food?
Environmental	– How does culling or not culling of sharks impact the environment?
	 Do sharks have a role to play in maintaining a healthy environment? Explain.

Criterion D Reflecting on the Impacts of Science

Level	Task-Specific Clarification	
	The student:	
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0	Does not reach a standard described by any of the descriptors below.	
0		
	١.	states one advantage or disadvantage addressed by the culling of sharks and the way
1 2		this problem
1-2	;;	states the implications of using culling to solve the problem of the shark population
		interacting with a factor
	iii	applies scientific language to communicate understanding but does so with limited
		success.
	iv.	documents sources, with limited success .
	i.	outlines more than one advantage or disadvantage addressed by the culling of sharks
		and the way scientific understanding of the environment, foodwebs and ecosystems is
3-4		used to solve these problems,
	ii.	outlines the implications of using culling to solve the problem of the shark population,
		interacting with a factor,
	iii.	sometimes applies scientific language to communicate understanding,
	iv.	sometimes documents sources correctly.
	i.	summarizes a comprehensive list of advantages or disadvantages addressed by the
БС		culling of sharks and the way scientific understanding of the environment and
5-6		ecosystems is used to solve these problems,
		interacting with a factor
		usually applies scientific language to communicate understanding clearly and precisely
	iv.	usually document sources correctly.
	i.	describes in detail an extensive list of advantages or disadvantages addressed by the
		culling of sharkss and the way scientific understanding of the environment is
7-8		ecosystems are used to solve these problems,
	ii.	discusses and evaluates the implications of using culling to solve the problem of the
		shark population, interacting with a factor,
	iii.	consistently applies scientific language to communicate understanding clearly and
		precisely
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Recall: Remember or recognize from prior learning experiences

Outline: Give a brief account

Describe: Give a detailed account or picture of a situation, event, pattern or process

Design: Produce a plan, simulation or model

Explain: Give a detailed account

Analyse : Break down in order to bring out the essential elements or structure. To identify parts and relationships, and to interpret information to reach conclusions.

Interpret: Use knowledge and understanding to recognise trends and draw conclusions from given

What is the process of " culling " in science and when is it used? Why is culling necessary from a scientific view point? Give an example where culling is necessary. Is culling of sharks necessary from a scientific view point? Explain your answer Clearly reference all your sources.	Briefly describe the issue you have selected. Clearly reference your sources.
scientific terms such as: - apex predator - producer - herbivore - first, second order consumers Discuss how sharks keep the populations of other species healthy. What will be the outcome on the natural foodweb you have drawn above if the numbers of sharks decrease via culling? Use data from credible, well referenced sources	Heading Draw a detailed food web to show how the shark interacts with other species in
Clearly use Harvard referencing to reference all your sources.	Discuss how the process of culling sharks interacts with your chosen factor. Use clearly referenced data.