

問題番号[1 5] <海洋生物学>

(解答は英語・日本語のどちらでもよい [英語/ラテン語と指示してある場合以外]。文法などの間違いは採点に影響しない。)

Choose TWO topics from the following five and discuss. Within each chosen topic, mention at least one organism (or group of organisms) and indicate its phylum or class in Latin/English.
(total: 50 points, 25 points each)

- (1) Competitive relations among benthos in the rocky intertidal
- (2) Global distribution of kelp forests
- (3) Migration between freshwater and marine habitats
- (4) Morphological and ecological adaptation of planktonic algae
- (5) Problems of plastic contamination in marine environments

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Answer the following questions concerning deep-sea ecosystems and their organisms.
(10 points each, total: 50 points)

- (1) Discuss the environmental characteristics of deep-sea abyssal plains.
- (2) Explain the linkages between deep-sea ecosystems and shallow-water ones.
- (3) Choose one taxonomic group (specify a phylum in Latin) of deep-sea organisms and describe their ecological and morphological characteristics which are unique compared with shallow-water relatives.
- (4) Explain a form of energy intake which is widely observed among organisms occurring in hydrothermal vent systems.
- (5) Discuss the reasons why benthic shell-bearing molluscs are relatively scarce in deep sea trenches.