

SECOND SEMESTER REVIEW

MATCHING

- | | |
|----------------------------------|------------------|
| 1. Plant Plankton | A. Calcareous |
| 2. Cannot make its own food | B. Phytoplankton |
| 3. Animal Plankton | C. Heterotrophic |
| 4. Made of calcium | D. Zooplankton |
| 5. Made of silicon (glass like) | E. Silicious |

TRUE FALSE 'A' FOR TRUE 'B' FOR FALSE

6. A Barrier island protects the mainland from the full force, and fiery of storms .
7. The Longshore current that you created on your shore lab is found deep out to sea..
8. One of greatest factors that produces sand dunes is water erosion.

MATCHING DEFINITIONS CHOOSE EACH ANSWER ONLY ONCE

- | | |
|-------------------------|---------------------------|
| 9. Odontocetes numbers | A. Form pods or herds |
| 10 Dolphin | B. Use clicks from melon |
| 11. Echolocation | C. 66 species |
| 12. Social group | D. humpback whale |
| 13. Suborder mysticetes | E. one blowhole and teeth |

CHOOSE ONE OF THE FOLLOWING MOLLUSK CLASSES AS THE ANSWER FOR THE FOLLOWING QUESTIONS;

- A. Gastropoda B. Pelecypoda
C. Amphineura D. Scaphopoda E. Cephalopoda

QUESTIONS; (You may use these answers more than once)

14. Is a rock dweller that holds fast between high and low tides.(Was the preserved mollusk)
15. Is the largest mollusk class.
16. Is also known as the tusk or sword shell class.
17. The squid is a member of this class.
18. This class includes clams, oyster, mussels, and scallops
19. Another name for this group is the Univalve class.
20. This class is the second largest class.
21. When frightened, members of this class can secrete ink to protect themselves.
22. Members of this mollusk group are primitive, and they have eight plates covering their shell.
23. Another name for this group is the Bivalve class.

TRUE- FALSE USE THE "A" FOR TRUE USE THE "B" FOR FALSE

24. Sediment is a valuable resource because some of it (Diatoms) can be used in the filters of swimming pools, and in yard preparation.
25. Holoplankton only spends a portion of its life as plankton.
26. Plankton is the essential for the survival of the oceanic food web cycle.

27. There are three main types of algae which are based upon these colors Green, Red, and Yellow.
28. The three methods for taking plankton samples are Piston corer, Grab sampler, and Plankton net.

MATCHING ANSWERS MAY BE USED MORE THAN ONCE

- | | |
|-------------------------------|-------------------------------------|
| 29. Float or drift on surface | A. Zooplankton |
| 30. Are Autotrophic | B. Both Phytoplankton & Zooplankton |
| 31. Important in food web | C. Phytoplankton |
| 32. Includes jellyfish | |
| 33. Known as algae | |
| 34. Daily vertical migration | |

CHOICES for questions 12–16

- | | | |
|------------|--------------------|---------------------|
| a. Diatoms | b. Dinoflagellates | c. Coccolithophores |
| | d. Foraminiferans | e. Radiolarians |
35. Is phytoplankton, calcareous, and soluble in low temperatures.
36. Is zooplankton, calcareous, and can be an indicator of under sea oil deposits.
37. Is phytoplankton which needs low level light, has flagella, and can cause red tides.
38. Is zooplankton, can be bioluminescent, and also has silica tests (shell).
39. Is phytoplankton found in cold, nutrient rich water which is golden brown, and forms rich earth.

MULTIPLE CHOICE

40. Temporary residents of the Plankton area who mature to dwell in another region of the ocean are called _____
- a. Zooplankton b. Phytoplankton c. Holoplankton d. Meroplankton e. Plankton
41. Planktonic organisms which use photosynthesis to make their own food are known as _____
- a. Autotrophic b. Phytoplankton c. Diatoms d. Heterotrophic
42. The zooplankton which causes the Red Tides is called _____
- a. Diatoms b. Dinoflagellates c. Coccolithophores d. Radiolarians
43. Permanent residents to the Plankton area that begin and end their life cycle there are called _____
- a. Zooplankton b. Phytoplankton c. Holoplankton d. Meroplankton e. Plankton

TRUE -FALSE 'A' FOR TRUE OR 'B' FOR FALSE

44. Birds are well suited to fly because they have hollow bones and feathers.
45. Marine birds enjoy a diet which includes fish, plants, and squid.
46. Four common Marine birds in our area are penguins, cormorants, doves, and seagulls.
47. Little Creek is the refuge in our area that is linked to the Eastern Flyway.
48. An endangered bird that lives in this vicinity is the Bald Eagle.

TRUE-FALSE ANSWER 'A' FOR TRUE OR 'B' FOR FALSE

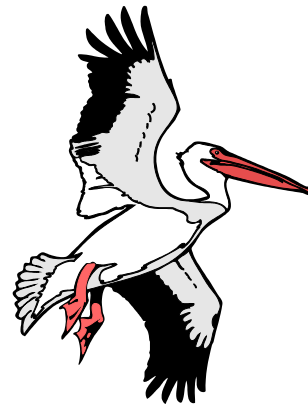
- 49. A shark is a member of the Osteichthyes class of fish.
- 50. Pectoral fins can be modified to be used for crawling or digging
- 51. The protective flap of bone and skin that covers the gills of a fish is called the barbels.
- 52. The lateral line is a system of sensory organs found in the fish.
- 53. An Angel fish is a good example of a compressed fish body shape.

MATCHING CHOOSE THE CHOICES DIRECTLY BELOW

- | | |
|---------------------------------------|---------------------|
| 54. Galapagos Island is their home | A. Mesozoic |
| 55. Ancient Marine Reptile period | B. Green Sea Turtle |
| 56. Most aggressive Marine Reptile | C. Crocodile |
| 57. Gets its color from algae it eats | D. Flatback Turtle |
| 58. Has thick overlying scales | E. Marine Iguana |

MATCHING CHOOSE THE BEST ANSWER

- | | |
|---|------------------|
| 59. Most endangered Marine turtle | A. Leatherback |
| 60. Most poisonous Marine reptile | B. Loggerhead |
| 61. Marine reptile often used for jewelry | C. Kemp's Ridley |
| 62. Name means "big head" | D. Sea Snake |
| 63. Largest sea turtle | E. Hawksbill |



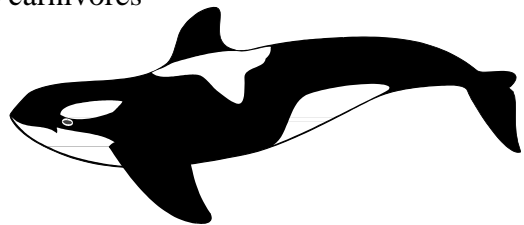
TRUE FALSE Answer "A" for True or "B" for False

- 64. Shallow water waves are the fastest traveling waves.

65. Waves which remain in a fixed position are known as standing waves.
66. Breakers occur because a wave hits the bottom of the shoreline.
67. The surfer's delight is technically called a spilling breaker.
68. A breaker which barely breaks on the steep slope of the shore is a plunging breaker.
69. The breaker with the steepest slope of all the breakers is known as a collapsing breaker.
70. Wood's Hole Oceanographic Institute is the famous research center that has Dr. Ballard as a part of their staff.
71. Aboard the *Fram*, Captain Nansen conducted research which was helpful in constructing the first submersibles.
72. In 1860, Charles Darwin classified, collected, and studied various organisms while he was aboard the H.M.S. *Retriever*.

MULTIPLE CHOICE

73. These are all marine mammal characteristics EXCEPT:
 - a. warm blooded
 - b. intelligent
 - c. have lungs
 - d. have hair
 - e. bear live young
74. The proper name for the ORDER that all whales, porpoises, and dolphins belong to is
 - a. pinnipedia
 - b. sirenia
 - c. mysticeti
 - d. odontoceti
 - e. cetacea
75. The order Pinnipedia is composed of these animals _____
 - a. whales and porpoises
 - b. dolphins and seals
 - c. walruses, seals, and sea lions
 - d. walruses, whales, and seals
 - e. sea lions, seals, and dolphins
76. Sea lions have unique features. Which one of these features does NOT belong to a sea lion?
 - a. crawl on land
 - b. external ears
 - c. walk quadrupedally
 - d. live only in the Pacific Ocean
77. The order Sirenia is extraordinary, and has all of these features EXCEPT _____
 - a. spends entire life in water
 - b. hind limbs become a paddle
 - c. mammary teats located in the armpit
 - d. are carnivores
78. The smallest marine mammals are the _____
 - a. seals
 - b. penguins
 - c. porpoises
 - d. dolphins
 - e. sea otters



79. These solitary mammals are seen thirty miles from land or ice in the arctic _____
 - a. polar bears
 - b. sea lions
 - c. penguins
 - d. porpoises
 - e. seals
80. The particular term which best describes the whale's body ease of movement is _____
 - a. flexible
 - b. streamlined
 - c. blubbery
 - d. buoyant
 - e. furry
81. Another name for the fluke found on the whale is _____
 - a. flipper
 - b. dorsal fin
 - c. tail
 - d. urogenital opening
 - e. paddle
82. Body hair is most commonly located on the whale in the _____ area
 - a. dorsal fin
 - b. armpit
 - c. blowhole
 - d. around the chin

MATCHING

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|------------------|--------------------|
| 83. Blubber | A. 90 % efficiency |
| 84. Air exchange | B. Hearing |
| 85. Blowhole | C. Buoyancy |

86. Cetacean milk
87. Best sense
- D. Nostrils
E. 40 % fat

TRUE (A for true) FALSE (B for false)

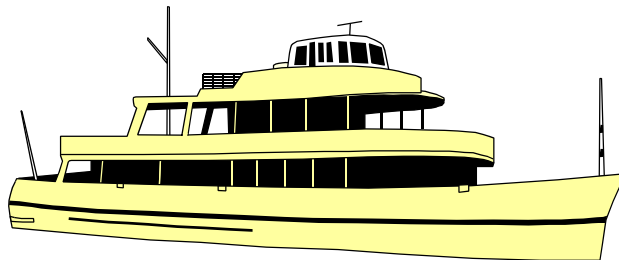
88. The porpoise has a prominent beak and is larger than the dolphin.
89. Dolphins are more active and curious than porpoises.
90. There are three types of feeding patterns for baleen whales. These types are: gulpers, skimmers, and dunkers.
91. Baleen whales are also known as Mysticetes.
92. Whales that have baleen use sound only to locate food, not to communicate.

MATCHING

93. Leaping out of the water
94. Swimming fast
95. Diving deep
96. Barrier to small fish
97. Resting on the surface
- A. Sounding
B. Breaching
C. Bubble netting
D. Logging
E. Running

TRUE (A for true) FALSE (B for false)

98. Mysticetes are more social and travel in larger pods than Odontocetes.
99. Whales were hunted in the past as a resource for oil, soap, leather and shooehorns.
100. Both the humpback whale and the bottlenose dolphin are visitors off of our coast



MULTIPLE CHOICE

101. All of these classes describe Fish EXCEPT _____
a. Agnatha b. Chondrichthyes d. Osteichthyes d. Platyhelminthes
102. These are all feeding types of fishes in the Chesapeake Bay EXCEPT _____
a. flounders b. predators c. strainers d. grazers e. pickers
103. All of these are specialized general features of a fish

EXCEPT _____

- a. gills b. ears c. air bladder d. fins e. scales
104. This is the type of fish body type which is adept at hiding _____
a. fusiform b. truncated c. elongated d. compressed e. depressed.
105. A fish which has a shape that is depressed would be _____
a. adept at hiding b. rounded on the sides
c. flattened from side to side d. flattened from top to bottom e. streamlined.
106. A bottom feeder would tend to have a mouth which is _____
a. down turned b. in the middle of the head c. upturned d. large and gaping.
107. All of these are different types of caudal fins EXCEPT this kind _____
a. concave b. forked c. barbel d. lunate e. rounded
108. Benthic fish have adapted to their region by having all of these abilities EXCEPT _____
a. creeping b. streamlined c. camouflage d. some have no swim bladder e. down turned mouth.

MATCHING CHOOSE ONLY THE FIVE CHOICES BELOW

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|------------------|---------------------------------|
| 109. Spring tide | A. Estuary water at low level |
| 110. Neap tide | B. 24 hr. 50 min. |
| 111. Tidal day | C. Estuary water level rising |
| 112. Flood tide | D. Moon and sun at right angles |
| 113. Ebb tide | E. Moon and sun on same side |

MULTIPLE CHOICE

114. This type of wave, which is produced by storms, is a large, smooth crested and can travel thousands of miles is referred to as a _____
a. swell b. tsunami c. episodic d. shallow water wave e. gravity wave
115. A small wave which is a wind driven wave is also called a _____
a. swell b. episodic c. spiller d. surf e. tsunamis
116. The energy of the wave originates from this (these) source (sources) _____
a. wind b. gravity c. earthquake d. volcano e. all of these
117. Deep water waves occur when the depth of a wave is greater than _____ the wavelength
a. $1/8$ b. $1/2$ c. $1/4$ d. $2/7$ e. $3/5$

MULTIPLE CHOICE

118. Shallow water waves are present when the depth of the wave is less than _____ the wavelength.
a. $1/9$ b. $2/16$ c. $3/12$ d. $7/40$ e. $1/20$
119. A Wave train is one which has the same _____ and _____
a. wavelength, wave height b. energy, speed c. depth, distance

d. speed , direction

e. wavelength, energy.

MATCHING

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|--|----------------------|
| 120. Sun's energy that reaches earth | A. Greenhouse Effect |
| 121. Warms up more quickly
and cools off more quickly | B. Insolation |
| 122. Earth's atmosphere traps
heat from the sun | C. Water |
| 123. Warms up more slowly
and cools off more slowly | D. Heat Budget |
| 124. 100% in = 100% out | E. Land |

TRUE FALSE ANSWER 'A' FOR TRUE AND 'B' FOR FALSE

125. Wind movement is caused by only one factor which is the rotation of the earth.
126. Of the sun's energy which is radiated to the earth, the amount of energy to reach the earth directly is 47%.
127. The only example of a current which is both warm and cool is the California Current.
128. Evaporation causes the oceans to become more dense.
129. When coastal winds blow the surface water toward the shore, this is called downwelling.

MATCHING CHOOSE ONLY THE FIVE CHOICES BELOW

- | | |
|------------------|---|
| 130. Crest | A. Number of waves past a point in a given time |
| 131. Wave period | B .Time one wave crest goes one wavelength |
| 132. Frequency | C. Waves of same direction and speed |
| 133. Wave train | D. Highest point of wave |
| 134. Trough | E. Lowest point of wave |

TRUE FALSE

ANSWER 'A' FOR TRUE OR 'B' FOR FALSE

135. Breakers occur because waves hit the bottom of the shoreline.
136. A breaker which has a tumbling crest and lasts a long time is called a spilling breaker.
137. The daily tidal table in Virginia Beach is based upon a semi diurnal type of tide.

MULTIPLE CHOICE:

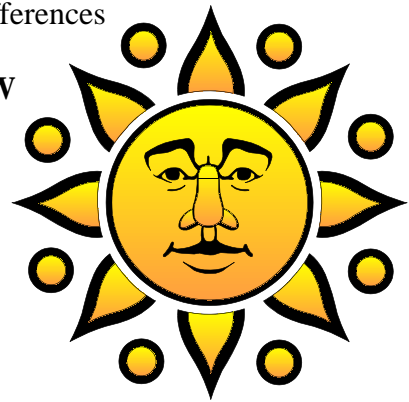
138. Atmospheric pressure is _____
- a. caused by the rotation of the winds b. caused by the movement of the currents
c. caused by the force with which the overlying air presses upon the earth d. all of these
139. Yearly the Chesapeake Bay provides 200 million pounds of seafood which is sold for _____ million dollars .
- a. 35 b. 100 c. 87 d. 261 e. 165

140. Currents rotate in the Northern Hemisphere in a _____ direction.
 a. clockwise b. counterclockwise c. east to west d. north to south
141. The major cause of currents would be _____
 a. prevailing winds b. Coriolis effect c. temperature and density changes d. all of these
 e. none of these
142. Warm currents have their origin (beginning) at the _____
 a. Trade winds b. Equator c. Horse latitudes d. Gulf Stream
143. The current which can carry a person around the world is called the _____ current
 a. North Equatorial b. North Atlantic c. West Wind Drift d. South Equatorial .
144. When surface water is blown away from the shore by offshore breezes , it is called _____
 a. divergence (upwelling) b. convergence (downwelling) c. longshore transport d. riptide.
145. Large circular movement of the waters in the oceans is called _____
 a. eddies b. gyres c. streams d. currents
146. Subsurface currents are formed because of this factor _____
 a. wind b. gravity c. density changes d. seasonal differences

MATCHING CHOOSE ONLY THOSE DIRECTLY BELOW

147. Polar Easterlies
 148. Trades
 149. Subpolar low
 150. Prevailing Westerlies
 151. Doldrums
 152. Horse Latitudes

- A. Wind Belts
 B. Pressure Zones



MULTIPLE CHOICE

153. This area has horizontal movement , and is a high heat reservoir _____
 a. bottom water b. surface water c. thermohaline area d. polar region.
154. In the middle region of the ocean , the layer which has to do with density changes is called the _____
 a. thermocline b. thermohaline c. halocline d. pycnocline
155. . The area of the ocean which has changes in salinity is known as the _____
 a. halocline b. thermocline c. thermohaline d. pycnocline

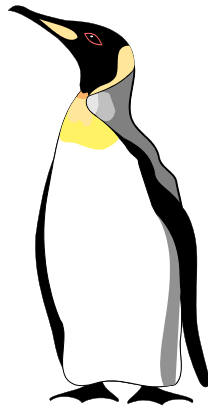
MULTIPLE CHOICE

156. When there is a noticeable change in the temperature in the middle region of the ocean it is known as the _____
 a. halocline b. thermocline c. thermohaline d. pycnocline
157. In the polar regions, the oceans water become _____
 a. less dense b. less layered c. more layered d. more dense
158. In comparison to the surface waters the bottoms waters of the oceans tend to move _____
 a. more slowly b. more quickly c. more seasonally d. more often
159. The Ekman spiral is caused by this factor _____

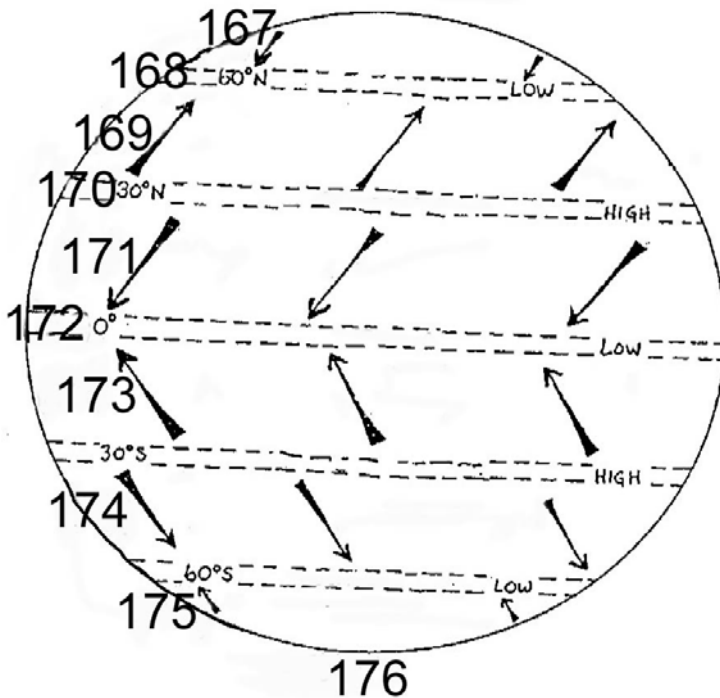
- a. gravity b. density c. Coriolis effect d. salinity
160. Wind movement creates wind cells . There are _____ wind cells in each hemisphere.
a. 7 b. 3 c. 2 d. 4 e. 1
161. Basic wind movement flows from the _____ to the _____
a. east , west b. north, south c. poles, equator d. equator, poles.
- 162 The Coriolis effect is due to movement of the earth , and in the northern hemisphere it deflects winds toward the _____
a. right b. left c. coasts d. poles.
- 163 Which of the following is NOT a wind belt _____
a. Polar easterlies b. Prevailing westerlies c. Trades d. Doldrums

MATCHING

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|--|---------------|
| 164. Heat transfers from one body to another. | A. Radiation |
| 165. Long and short electromagnetic waves which transfer heat. | B. Convection |
| 166. Movement of heat by currents | C. Conduction |



Major Wind and Pressure Systems



USE THE DIAGRAM ABOVE TO IDENTIFY THE FOLLOWING AREAS

- | | |
|------|---------------------|
| 167. | A. Subpolar. |
| 168. | B. Westerlies |
| 169. | C. Polar Easterlies |
| 170. | D. Trade Winds |
| 171. | E. Horse Latitudes |

USING THE SAME DIAGRAM COMPLETE THESE QUESTIONS

- | | |
|------|-----------------|
| 172. | A. Westerlies |
| 173. | B. Trades |
| 174. | C. Polar high |
| 175. | D. Doldrums |
| 176. | E. Low Pressure |

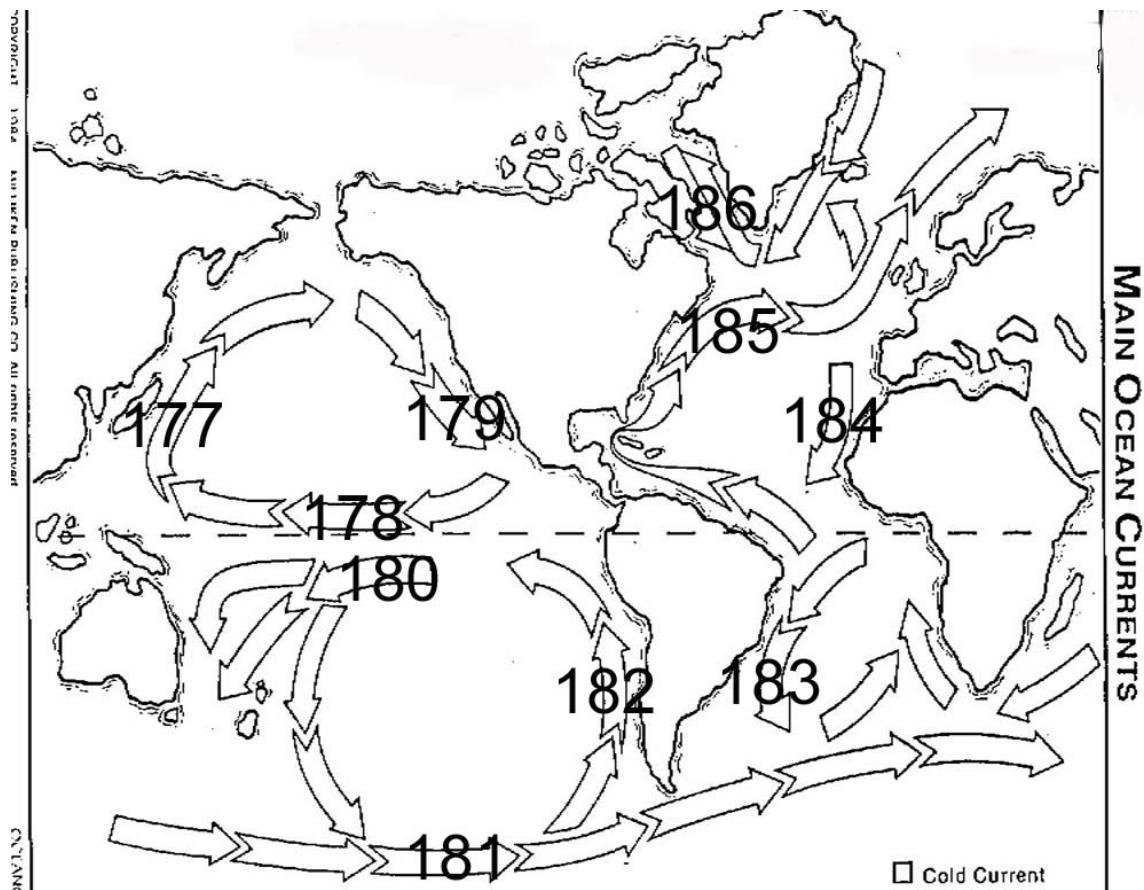
FOR THE CURRENT MAP IDENTIFICATION USE THE CURRENT MAP BELOW

MATCHING

- | | |
|-----|----------------------|
| 177 | A. California |
| 178 | B.. West Wind Drift |
| 179 | C.. North Equatorial |
| 180 | D.. Kuroshio |
| 181 | E. South Equatorial |

MATCHING USE THE SAME CURRENT MAP

- | | |
|------|-------------|
| 182. | A. Labrador |
| 183. | B. Canary |
| 184. | C. Peru |
| 185. | D. Brazil |
| 186. | E. Gulf |



MATCHING CHOOSE EACH ANSWER ONLY ONCE

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|------------------|--------------------------------|
| 187. Fins | A. Used in respiration |
| 188. Air Bladder | B. Protective slime coating |
| 189 Gills | C. For maneuverability |
| 190. Mucous coat | D. Keeps fish buoyant (afloat) |

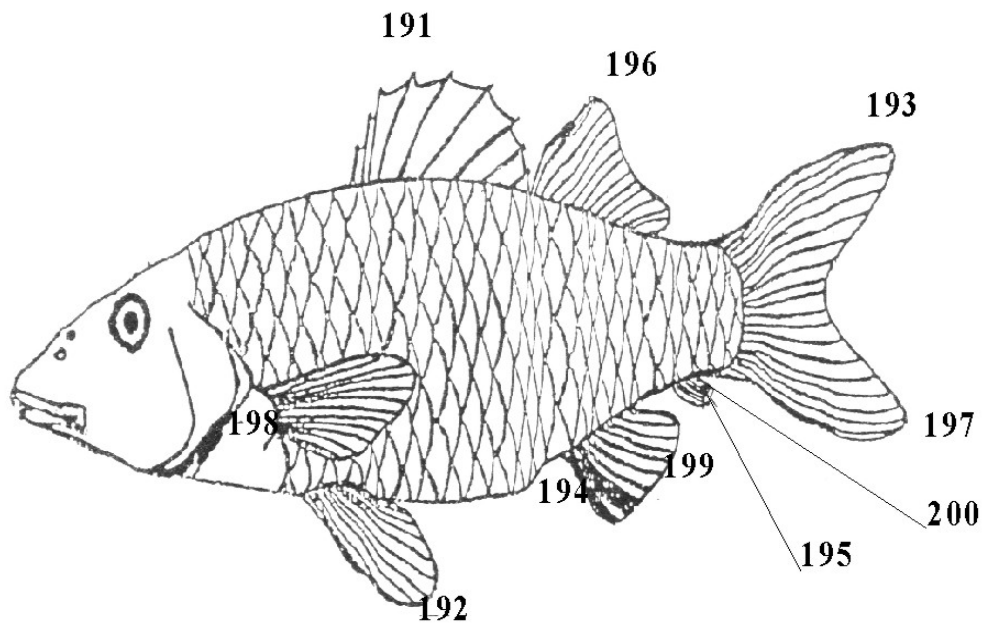
**USE THE PICTURE BELOW TO ANSWER QUESTIONS 191-200
QUESTIONS 191-195 REFER TO THE KIND OF FIN**

- A =Pectoral fin
- B = Anal fin
- C = Dorsal fin
- D. = Pelvic fin
- E = Caudal fin

**QUESTIONS 196-200 REFER TO THE PRIMARY FUNCTION OF THE FIN NEAR
THE CORRESPONDING NUMBER**

- A. = Power
- B. = Turning
- C. = Stabilization
- D. = Braking
- E. =Mating

Fish



ESSAY

SHORT ANSWER READ THE QUESTION CAREFULLY AND ANSWER FOUR of the SIX IN COMPLETE SENTENCES

201. EXPLAIN at least Three important facts about the Marine Reptile you studied.
202. DISCUSS the Two types pf Plankton, and give an Example of each kind.
203. EXPLAIN how currents and winds interact.
204. DISCUSS five differences between Mysticetes and Odontocetes.
205. LIST and EXPLAIN the four wave types.
206. DESCRIBE the characteristics and value of fish in our oceans.

LEARNING begins with KNOWLEDGE, and finishes with WISDOM.

