

BIOLOGY 421: Marine Biology

Dr. M. Franklin, Intr.

Name _____

You will be going to the Cabrillo Marine Museum in San Pedro as one of our field trips. If you have not been to this aquarium you are in for a real treat. During our visit we will be introduced to the marine environment found along the southern California coast and many of the organisms which live in our coastal waters. Admission and parking are free (get your parking pass validated at the front window), but a suggested donation of \$5.00 per adult is requested..

In order to better focus your brain, answer the following questions as best you can. As you enter, pick up the Visitor's Guide. Each of the following 35 questions is keyed to the 35 aquaria and accompanying displays. Be sure to bring your handout with the list of organisms we will see during the semester. You will find it very useful in answering the following questions. Bring a clipboard or a large book to make it easier to write legibly.

1. List three different adaptations the organisms in this display have evolved to withstand the energy of the waves.

a.

b.

c.

2. What is the Common name, Genus, Species and Phylum for three different organisms in this tank?

a. common name _____ Genus _____ Species _____ Phylum _____

b. common name _____ Genus _____ Species _____ Phylum _____

c. common name _____ Genus _____ Species _____ Phylum _____

3. What adaptations aid these organisms in their diet?

4. What Phyla are found in this "plant like animal" display?

12. If this area (tide-pool touch tank) is available to us, list 5 organisms found in the intertidal and 2 swimming around.

13. a. These are the largest crustaceans in the world. To what Class do they belong?

b. To what Phylum do they belong? _____

c. What other group of organisms belong to this phylum which are the most abundant organisms on Earth?

14. What do all the different species in this display have in common? (That is, what makes the “crustaceans?”)

15. What types of organisms would hatch out of these egg cases? (Give me the Phylum, Genus, Species and common name.)

16. What are the advantages and disadvantages for a fish to defend a territory?

17. Octopuses are excellent predators. What are some adaptations that you can see on this critter which make it good at it?

18. Moray's look ferocious. Is this because they are ferocious? Explain

19. How many different Phyla can you find in this display which hide from prey or predators with the use of camouflage?

20. How do these critters know what color to turn into?

21. List the common names of 10 different fishes which inhabit the kelp forests off southern California.

22. All of these fishes (in the wave tank) look somewhat the same although they do not belong to the same species. What adaptations do they have in common? How would you tell them apart?

25. Many shorebirds look much alike. They vary in one way which allows them to specialize in a particular type of food. What structure shows this variability? List five different kinds of shorebirds.

26. Two different types of organisms are “shown off” in this display. What are their Phyla and common names?

27. Humans make artificial substrates attract many different kinds of organisms. List Phyla which might be found on these substrates (this may or may not be available).

28. List the common name of one organism found in this display. _____

29. List the common name of one organism found in this display. _____

30. a. Where are most bioluminescence organisms found?

b. How do marine organisms make light?

c. What are some advantages to being bioluminescent?

31. What are some of the abiotic factors that affect deep sea organisms? What types of adaptations do they have for survival (there are a number of examples in this section)?

32. How do sea jellies (jelly fish) defend themselves?

33. Our state fish is in this tank. Which is it?

34. What are some advantages and disadvantages of schooling?

35. Are sharks and rays fish? How are they different from the fishes in tanks 33 & 34? (Give me at least 3 characteristics.)

36. There are 2 recent additions to the aquarium complex (The Exploration Center and the Aquatic Nursery). Please discuss how these centers impact marine science education (Exploration Center) and marine science research (Aquatic Nursery).

37. List the marine organisms that you have seen or read about today which you have also seen in their natural habitat when you have been to the beach, fishing, surfing, etc.. Describe some of your experiences. This is so we can have a feel for what range of experience the class as a whole has had.