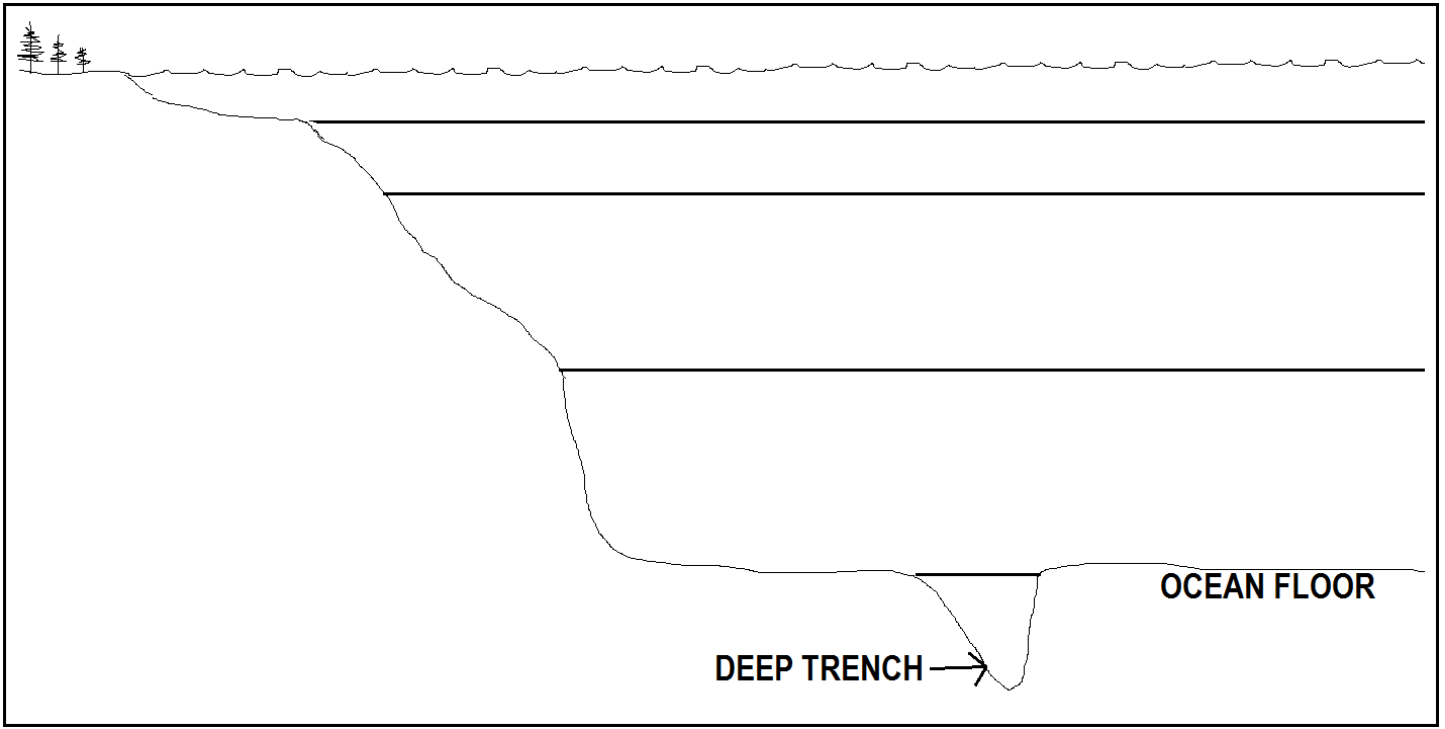


Do a google search to find out what the different ocean environments are. Label the picture below. Be sure to label the bathypelagic zone, the mesopelagic zone, the epipelagic zone, the hadal zone, and the abyssopelagic zone. (5 points)



FILL IN THE CHART BELOW: (25 pts)

OCEANIC ZONE NAME	CREATURES FOUND HERE? (NAME AT LEAST 3)	DISTANCE DOWN?	SUNLIGHT PENETRATES? Yes or no?
Epipelagic			
Mesopelagic			
Bathypelagic			
Abyssopelagic			
hadalpelagic			

Go to the following movie link and answer the questions below. The questions follow the movie and are in order.

<https://www.nationalgeographic.org/media/deep-sea-hydrothermal-vents/>

1. What is the name of the submersible they used? _____
2. What are the white tubes with red on top called? _____
3. Does sunlight reach the bottom of the ocean? _____
4. The chemicals by the plumes are _____ to humans
5. The process of converting chemicals to energy is known as _____
6. What are the structures called that they found? _____
7. First the water seeps down into cracks and gets superheated by _____.
8. What does it pick up as it boils up and rises? _____
9. What is the name of a hydrothermal vent that emits water like a thick black cloud? _____
10. The hydrothermal vents that contain barium, calcium and silicon are called? _____

CONTINUED ON BACK SIDE->

11. Some hydrothermal vents give off bubbles of _____.
12. The water pressure is very _____ at the bottom of the ocean
13. The temperature can get up to _____ Fahrenheit
14. Why doesn't it boil? _____

Read questions 15-22 first. Watch the videos. The questions are NOT in order, but should be easy to answer AFTER watching the videos

https://www.youtube.com/watch?v=ER2KsU2I4_Y

https://www.youtube.com/watch?v=gT5_z3CKXBo

15. Does sunlight reach here? _____
16. What is the bottom of the food chain in the bottom of the ocean? _____
17. How do bacteria make food for themselves if there is no sunlight energy to help them?

18. What raw materials do bacteria use to make sugar? _____
19. What role do tubeworms play in the ecosystem at a hydrothermal vent? _____
20. What niche does the bacteria have in this ecosystem? (consumer, producer, herbivore, carnivore, omnivore, decomposer?) _____
21. Name at least one consumer in this ecosystem. _____
22. Draw a food chain of at least 3 organisms to show how energy flows in this ecosystem (1pt)



Using google, research “deep sea creatures” or “hydrothermal vents” or “benthic organisms” to find an organism that interests you. Briefly sketch below and fill in the details about the organism. Make sure that the organism is not extinct and that the organism actually exists. Some people are great at photoshop. If you are not sure, just ask me.

1. What is the name of your creature?
2. How far down does it live?
3. How does your creature get energy?
4. What niche does this creature have in the ecosystem?
5. What special traits or adaptations does this creature have?