

chep  
shep

Drug

Drug

# Plankton test – 19 October 2018

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1. Distinguish between **phytolankton** and **zooplankton**.

Plankton → is a [2] <sup>2</sup> organism that drift

**Phytoplankton**  
 \* unicellular  
 \* Photosynthetic ✓  
 \* Autotrophic  
 \* They have colored because they have chlorophyll  
 \* can't move

**zooplankton**  
 \* Heterotrophic ✓  
 \* transparent  
 \* unicellular  
 \* can move

have 2 types  
 → meroplankton  
 → zooplankton

2. Compare (= similarities and differences) the morphology (= form and structure) of planktonic diatoms, dinoflagellates and coccolithophores. [4] <sup>4</sup>

	Diatoms	dinoflagellates	coccolithophores
Size	20-2000 $\mu$ m	20-2000 $\mu$ m	2-40 $\mu$ m
flagella	NO	✓ yes (2)	yes (2)
structure	They have a glass casing made silica	cellulose	it's covered with <u>calcium carbonate</u> ✓
cell	unicellular	✓ unicellular	unicellular

3. Define the term **meroplankton** and give a named example of an organism that is considered to be meroplankton. [3] <sup>2</sup>

Meroplankton → Only a part of their life spent be. plankton and then it lives e.g → larvae crab ✓ on the seafloor

4. Describe and evaluate (= advantages & disadvantages) two methods used to collect plankton. [6] <sup>6</sup>

	Jar	Net
descriptive	Drag the surface of water to get plankton ✓	Drag Net behind the boat and open the cod end to get plankton ✓
advantages	is cheap ✓	can (collect) filter a lot of water → very concentrated sample ✓
disadvantages	can not collect Plankton in the deep ✓	The Jellatinous plankton can be died ✓



5. a) Explain three adaptations of phytoplankton.

- ① oil droppled for help the buoyancy - because they need the sunlight and only find in the surface. float. ✓ [3] 3
- ② May be chains because this help when stay together for float. ✓
- ③ They have (spines) fingers (in Ceratium) that help to catch on the sunlight ✓



b) Explain three adaptations of zooplankton.

[3] 3

- ① transparent for camouflage ✓
- ② red light → in the deep for other predators no see them ✓
- ③ Jellatious because this allow that float ✓

6. Compare the distribution (= where they live) of phytoplankton and zooplankton in the ocean.

[2] 2


Phytoplankton	zooplankton	Both
* Live in the surface of the water. ✓ because need the sunlight ⇑	* Live in the surface deep because there are less predators	Live near to coast ✓ because there are more organisms and nutrients

7. Explain how phytoplankton blooms can be harmful to marine ecosystems and to human health.

[2] 2

Phytoplankton blooms → increase rapid of population algae

Because ↓

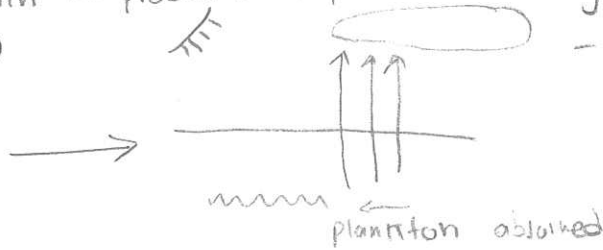
- ① Block the sunlight that it's necessary for some organisms that they are autotrophic and photosynthetic. ✓
- ② Block the fish gills → and they died ✓ 
- ③ Depletes of the oxygen in the sea  
The phytoplankton blooms has toxins that some animals eat and when we eat that animals can be bad for us because maybe to a poison. good! ✓

Human health →

8. a) Explain how 'iron fertilization' might help with the problem of global warming.

Because when the humans put Iron (that is a nutrient) in the water, the phytoplankton ~~grow~~ <sup>rapidly increase the amount</sup> and they absorbed the ~~carbon~~ <sup>dioxide</sup> that there are in the atmosphere and that help with the problem of global warming and also is really cheap

visual



- b) Evaluate 'iron fertilization' as a solution to global warming. Give both pros and cons.

PRO -

CONS

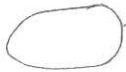
- is really ~~cheap~~ expensive <sup>(no pro)</sup>
- High level nutrients (solution)
- can be help with the global warming because the phytoplankton absorbed the carbon <sup>dioxide</sup> of the atmosphere.

- we don't know which effects cause
- For example →
- Blocks the sunlight to different organisms and they died
- we don't know which effects cause in the sea and what it's the reaction in the sea

- Increase the plankton bloom in the sea and can be dangerous because it have toxins <sup>can be (poison)</sup>
- depletes of the oxygen in the sea and this is important for animals

9. Write one question about plankton that you wish had been on this test and answer your question.

Why do you want be a crab larva? I want be larva crab because only one part of their life is Meroplankton after that it is freedom. <sup>great!</sup>



$\frac{31}{34} = 91\%$



I want to be copopode because is a phytoplankton, that is independent because they produce own their food.

