MARINEreview: Plankton

Your most important resources are www.sciencerush.net and PowerSchools. Use them! I am available every day before school, after school, and during lunch for extra help. Let me know if there is anything I can add to this review to help you.

Marine Organisms of the Day

1. *Pfiesteria picicida*: Pfiesteria is a toxic dinoflagellate discovered by Dr. JoAnne Burkholder at NC State. It was referred to as "the cell from hell" in media reports due to its ability to cause huge fish kills and neurological problems in humans.
https://www.youtube.com/watch?v=IAFVC1T0KpU (4:57)

2. Sea Wasp (*Chironex fleckeri*): The Sea Wasp, a type of Box Jellyfish, are some of the most dangerous and most advanced jellies in the world. Their venom has toxins that attack the skin cells, nervous system, and the heart, and are powerful enough to kill a human through heart failure or shock (which causes the victim to drown).
https://www.youtube.com/watch?v=WrMRwddl7iQ (2:09)

3. Comb Jellies (Phylum Ctenophora): These jellies are oval shaped, and as they swim, their comb rows refract light to produce a shimmering, rainbow effect. Comb jellies can eat other comb jellies that are bigger than themselves by biting off chunks with special cilia structures in their mouths.
https://www.youtube.com/watch?v=G7WT81ukHZE (1:01)

4. Nomura's Jelly (*Nemopilema nomurai*): The largest cnidarian in the world. It grows up to 2 meters in diameter and weighs up to 440 pounds. The population has been increasing in past years, which could be caused by climate change, overfishing, and coastal modification. The Japanese company Tango Jersey Dairy makes a vanilla and jellyfish ice cream from Nomura's jellyfish.
https://www.youtube.com/watch?v=u0I-3wkH37w (2:38)

5. Krill (Order Euphausiacea): Krill are possibly the most important species in the sea. Feeding on phytoplankton themselves, these small crustaceans are the main food source for many marine mammals, birds, fish and squid. The entire Antarctic ecosystem would collapse without krill.
http://video.nationalgeographic.com/video/krill (1:52)

6. Sea Sparkle (Subclass Copepoda): These plankton are dinoflagellates that are known for their bioluminescence. They are abundant in coastal waters of temperate, subtropical and tropical latitudes.
https://youtu.be/eTDxjOjzm9w (2:17)

7. Copepods (*Noctiluca scintillans*): Copepods are crustaceans found in almost every aquatic environment on Earth. They are a zooplankton that eat phytoplankton and serve as an important food resource for many species in these environments.
https://youtu.be/xFQ_fO2D7f0 (6:01)

Top 10 Terms for This Exam

Phytoplankton
Meroplankton
Pfiesteria piscicida
Standing Crop
Protista
Zooplankton
Plankton Distribution
Red Tides
Hydrography
Arthropoda

The Gimme Questions for This Exam

1. Mechanisms or factors that affect the sinking rate of planktonic organisms include all of the following **except**
a. alteration by the organism of its immediate environmental temperature, which affects density
b. alteration by the organism of the chemical components of its body
c. an organisms increased surface area due to flattening its body
d. an organisms increased water resistance due to spines and other projections

2. Which of these types of organisms is a predominant constituent of the meroplankton?
a. diatoms b. dinoflagellates c. copepods d. larval forms of benthos

3. The depth at which there is sufficient light intensity to permit photosynthesis is different as each of these parameters change **except**
a. latitude b. wavelength of light c. water transparency d. temperature

4. The major nutrients needed for phytoplankton growth and reproduction are

a. sulfates and nutrients
b. phosphates and nitrates
c. nitrates and sulfates
d. phosphates and sulfates

Finding Nemo Clips for This Exam

1 – New Parents
14 – Jellyfish
20 - Algae