# MARINEreview: Oceanography

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. (Nemo) Clown Anemonefish aka False Percula Clownfish aka Common Clownfish (*Amphiprion ocellaris*):** Clownfish are sequential hermaphrodites, which mean that they develop into males first, and then when they mature, they become females. The clownfish is able to survive the anemone poison through a mucus coating based on sugars instead of protein so that the anemone doesn't recognize it as food and fire its nematocytes.
https://www.youtube.com/watch?v=P-5ezc-2uD4 (1:28)

**2. (Crush) Green Sea Turtle (*Chelonia mydas*):** The Green Sea Turtle is the largest of the sea turtles at up to 700 lbs. Unlike most sea turtles, adult Green Sea Turtles are almost exclusively herbivorous, while juveniles will eat invertebrates like jellyfish and crabs.
http://oceantoday.noaa.gov/endoceanseaturtles/ (2:49)

**3. (Bloat) Spotted Porcupinefish (*Diodon hystrix*):** While porcupinefishes are sometimes referred to as pufferfish, they are actually in the family Diodontidae along with burrfishes, while the true pufferfishes are in the family Tetraodontidae). All these species are known for dramatically increasing their size by taking in air or water. In Porcupinefish, this results in the extension of sharp spines. Some species are also poisonous, accumulating toxins in their internal organisms from bacteria in their diet.
https://www.youtube.com/watch?v=dBXhZAciT8Q (1:49)

**4. (Pearl) Pink Flapjack Octopus (*Opisthoteuthis californiana*):** The Pink Flapjack Octopus is actually a deep water octopus, living in depths of 500-1,500 m. Sadly, Pearl would not be able to survive in the surface waters of the Great Barrier Reef.
https://www.youtube.com/watch?v=aqQO8smcDzs (0:38)

**5. (Gil) Moorish Idol (*Zanclus cornutus*):** The Moorish Idol is the only living species of their family (Zanclidae). They are native to Pacific and Indian Ocean coral reef ecosystems, and are famous for being extremely difficult to keep in aquariums – P. Sherman must be a very accomplished aquarist.
https://www.youtube.com/watch?v=Nqfi-LOnImc (1:12)

**6. (Gurgle) Royal Gramma (*Gramma loreto*):** The Royal Gramma is a common reef fish that feeds primarily on plankton, but has been known to clean parasites off other fish. They are a peaceful fish that is often kept in aquariums for that reason.
https://www.youtube.com/watch?v=US19qP5xTk4 (2:22)

**7. (Sheldon) Queensland Seahorse (*Hippocampus queenslandicus*):** Seahorses inhabit bottom rubble and seagrasses, feeding on plankton and small crustaceans. As with all seahorses, the male brood the eggs in a pouch until hatching.
https://www.youtube.com/watch?v=yOt1BSy0KdY (2:24)

**8. (Dory) Regal Tang aka Royal Blue Tang (*Paracanthurus hepatus*):** Blue tangs can make themselves semi-transparent when faced with danger to help them escape. It is used as a bait fish, but is more highly prized as an aquarium fish. It also may cause ciguatera (symptoms: gastrointestinal and neurological affects that can last for years) poisoning if eaten by humans.
https://www.youtube.com/watch?v=5IvKtfxSeKc (2:15)

**9. (Mr. Ray) Spotted Eagle Ray (*Aetobatus narinari*):** The spotted eagle ray is a "near-threatened" species due to overharvesting that lives in shallow inshore waters and along coral reefs. They have been known to leap out of the water, possibly to escape predators, surprise prey, remove parasites or attract mates.
https://www.youtube.com/watch?v=4L1Zm_H0BTQ (1:36)

## Top 10 Terms for This Exam

Properties of Seawater
Neritic Zone
Types of Tides
Waves
Coriolis Effect
SONAR
Oceanic Zone
Salinity
CTD
Niskin Bottle

**The Gimme Questions for This Exam**

1. Which of the following methods can be used to determine salinity?
a. refraction b. conductivity c. density/specific gravity d. all of these answers

2. We typically think of water as being transparent, but water absorbs light. As a result, there is little or no light from the sun at depths greater than
a. 100-200 m b. 200-400 m c. 200-700 m d. 700-1,000 m

3. One manifestation of the properties of water is the unique environment that exists at the air-water interface. It allows the formation of a unique assemblage of organisms at this point. The phenomenon responsible for this unique environment is called
a. surface tension b. hydrogen bonding c. cohesion d. the Darwin Effect

4. The effect of Earth's rotation on any mass moving across its surface is known as
a. centrifugal force b. centripetal force c. the Eckman Spiral d. the Coriolis Effect

**Finding Nemo Clips for This Exam**

5 – The Drop Off 16 – Sea Turtles 31 – Tank Escape