

Marine Biology Chapter 13: Study Guide

Coral Reefs

- Vocabulary

Subtidal zone

Calcium carbonate, CaCO_3

- Know where coral reefs form including the conditions that are favorable for their growth
- Know what important compound is the main component of reefs
- Know what the most important reef builders are

Coral Reef-Builders

- Vocabulary

Cnidarians

Mesenterial filaments

Coral rubble

Planula

Dissolved organic matter

Biogenous

Metamorphosis

(DOM)

El Niño

Hermatypic

Nematocysts

Bleaching

Zooxanthellae

Algal ridge

- Know what group of organisms corals are a part of and what their closest relatives are
- Know the ten reef building coral forms that we discussed
- Know the corals that are not reef-building ones
- Know the basic structure of a coral polyp
- Know the step-by-step process that builds coral colonies
- Know how the “founder” polyp genetically relates to the coral colony
- Know how coral colonies and coral skeletons are constructed
- Know what symbiosis is and the three types of symbiotic relationships
- Know the symbiotic relationship that coral have
- Know what each partner in the coral symbiotic relationship contribute
- Know what the calyx is
- Know how the Zooxanthellae obtain food
- Know the different mechanisms that the coral use to obtain food including through the symbiotic algae
- Know what other reef-builders exist on the coral reef and what important functions they perform
- Know what coral sediment is and what forms it
- Know the four conditions necessary for reef growth in detail including which conditions are favorable, which are not and what can change conditions to make them unfavorable
- Know the reef zonation and the five zones we discussed
- Know what coral bleaching is including what causes it
- Know the three human-induced stresses on corals and what they are doing to coral populations
- Know how global climate change and El Niño and La Niña are affecting water temperatures and therefore coral populations
- Know why humans should care about coral reefs
- Blue box *Coral Reproduction* on page 278

Kinds of Coral Reefs

- Vocabulary

Fringing reef	Fore-reef slope	Indo-west Pacific region
Barrier reef	Coral knolls or pinnacles	Windward
Atoll	Sandy cays or keys	Leeward
Reef crest	Spur-and-groove	
Lagoon	formations	
Back-reef slope	buttresses	

- Know the three main shapes of coral reefs including conditions that are faced in each and how each is formed (if applicable)
- Know the zonation of each type of reef and what each zone's conditions are like
- Know who first hypothesized as to how atolls were formed

Coral Reef Ecology

- Vocabulary

Recycled	Sweeper tentacles	Crown-of-thorns sea star
Nitrogen fixation	Lottery hypothesis	Microherbivores
Turf algae	Deterministic hypothesis	Obligate symbionts

- Know the trophic structure of the coral reef
- Know what nutrient recycling is, who performs it and why it is important
- Know where additional supplies of nutrients come from
- Know the three sources of primary production in coral reefs
- Know what competition faces coral and the two ways in which coral compete
- Know why soft corals do not outcompete the hard corals
- Know how predation and grazing influence coral reefs
- Know what the crown-of-thorns sea star is and what impact it has on the coral reef
- Know the impact that symbiotic relationships have on organisms living in a coral reef
- Blue box “*Must have been something I ate*” on page 297