

# CORALS

What are corals and their characteristics?





# CORALS

- Cnidaria [cnidarians] - diverse group of animals that are believed to be from a single common ancestor that had stinging cells



Corals



Sea Anemones



Jellyfish



Cnidarians



# CORALS

- Corals - hard stony substance secreted by certain marine organisms as an external skeleton







Corals

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- Corals are small organisms that make up larger structures
  - Example: Great Barrier Reef





# CORALS

- Coral Polyp - soft-bodied organism that are actually animals that rely on a symbiotic relationship to survive



# CORALS

- Corals provide food sources and protection for many organisms
- Constitute a hazard to shipping





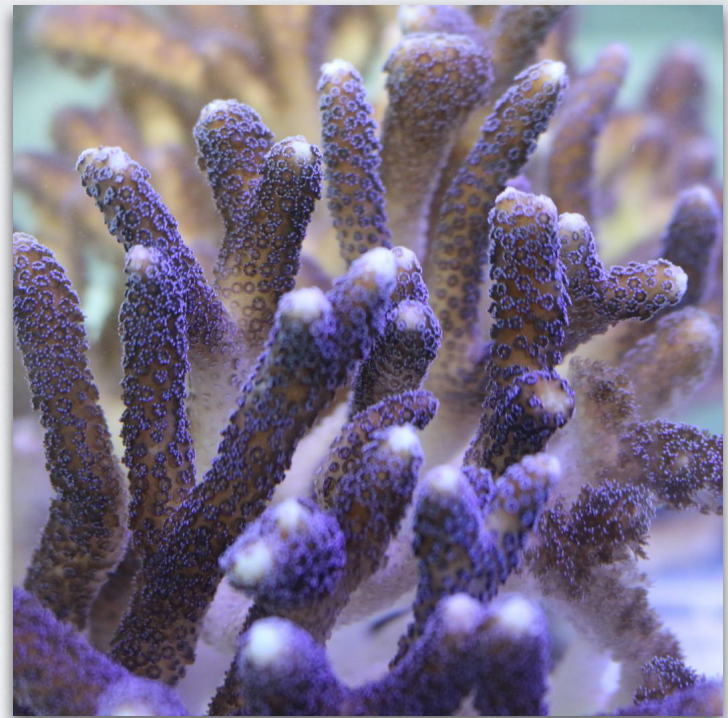
# CORALS

- Corals come in a variety and shapes, sizes, and usually resembles familiar objects for which it is named



# CORALS

- Stony Corals:
  - Made of limestone and can form massive structures
  - Examples: Brain, Staghorn and Star Corals





# CORALS

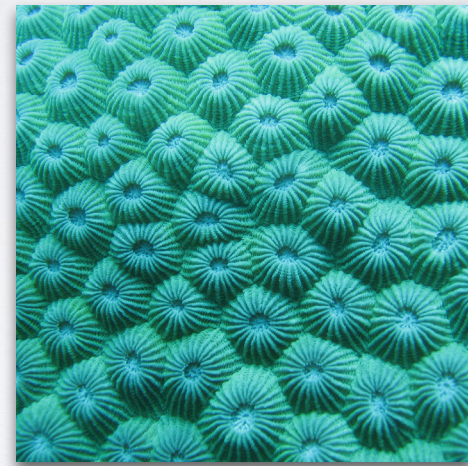
## Types of Stony Corals



Brain



Staghorn



Star





*What type of coral is this one?*



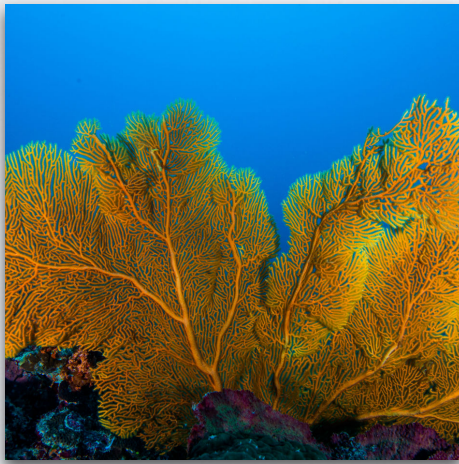
# CORALS

- Soft Corals:
  - Composed of fibrous protein, which gives them flexibility
  - Appear to look more like plants
  - Sway back and forth with current and waves
  - Examples: Sea-fan, Whip and Plume

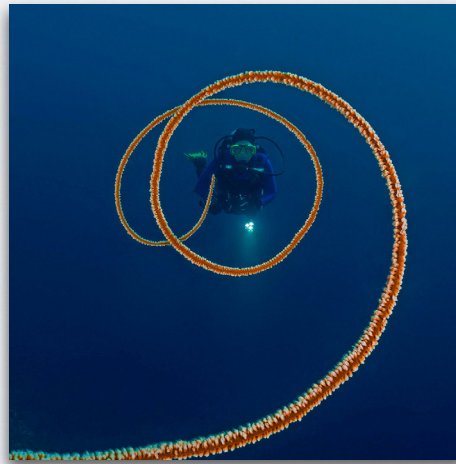


# CORALS

## Types of Soft Corals



Sea-fan

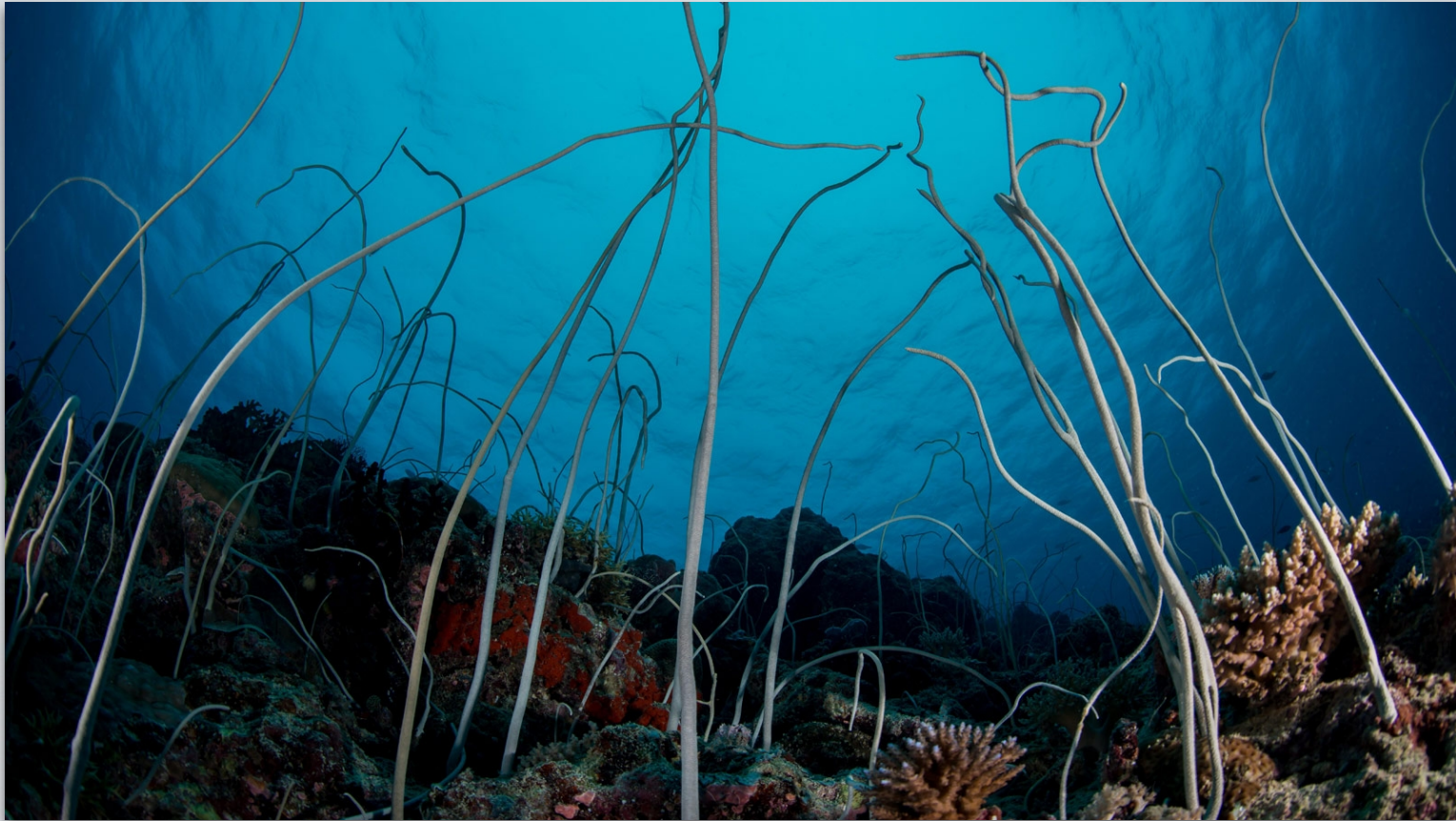


Whip



Plume





*What type of coral is this one?*

# CORALS

- Coral Production:
  - Coral reef building is similar to that of creating bones or teeth
  - Coral is composed of calcium
  - Coral polyp take up calcium and carbon dioxide from sea water to form limestone ( $\text{CaCO}_3$ )



# CORALS

- Coral Production: [continued]
  - Special cells [algae] called zooxanthellae are captured by the coral polyp and help absorb  $\text{CO}_2$
  - The trapped algae use sunlight to photosynthesize and thus produce  $\text{O}_2$  as a by product, used by coral



# CORALS

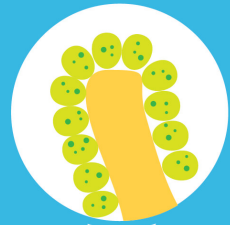
- Coral Bleaching:
  - Warmer water temperatures cause corals will expel the zooxanthellae and turn completely white





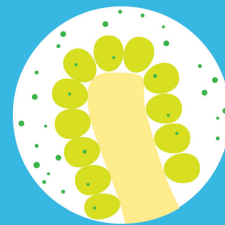
### HEALTHY CORAL

1 Coral and algae depend on each other to survive.



### STRESSED CORAL

2 If stressed, algae leaves the coral.



### BLEACHED CORAL

3 Coral is left bleached and vulnerable.



*Coral Bleaching*



*Before*



*After*





Coral Bleaching