



A partnership in the sunlight

Background reading for teachers

This reading gives you the background for each slide, with sources you can check.

Symbiosis

Most reef-building corals host photosynthetic dinoflagellates (zooxanthellae) in their tissues. The relationship is mutualistic, and as much as 90% of the organic material the algae produce is transferred to the coral.¹ Zooxanthellae can meet up to 90% of the coral's energy needs, with the rest from feeding on plankton, which limits reef-building corals mainly to shallow, well-lit water.²

Growth

Massive corals typically grow 0.5 to 2 cm a year, and up to about 4.5 cm in favourable conditions.³ Branching corals may grow up to about 10 cm a year under optimum conditions, and corals lay down annual growth bands that can be counted like tree rings.⁴

Sources

1. NOAA. What is zooxanthellae? Corals tutorial. oceanservice.noaa.gov
2. eAtlas. Zooxanthellae. eatlas.org.au
3. NOAA. What are corals made of? oceanservice.noaa.gov
4. NOAA National Marine Sanctuary of American Samoa. Coral reefs. americansamoa.noaa.gov

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