



Khaled bin Sultan
Living Oceans
Foundation

STANDARDS

- **CCSS:** RST.9-10.2, 4, 5, 7, 8, 9, 10; RST.11-12.2, 4, 8, 10; SL.9-10.4; SL.11-12.4
- **NGSS:** HS-LS1-1
- **OLP:** 5.C.22

ONLINE CONTENTS

- [Coral Anatomy Quiz](#)
- [Coral Anatomy Interactive](#) (at bottom of *Coral Anatomy* section) Use the interactive program to learn and explore more about the anatomy of a stony coral polyp.
- [What Are Corals? Video](#) Corals are animals. An individual coral's body, called a polyp, is mostly stomach, with a mouth on top. Its mouth is ringed with tentacles - but these just aren't any tentacles, they're lined with stinging cells, some filled with venom (neurotoxins) that paralyze their prey.
- [Form Fits Function Video](#) Ever heard the phrase form fits function? It's when the shape of something is designed for the job it is supposed to do. When applied to sea creatures it means their body parts are a good match for their role in the animal's survival.

CORAL ANATOMY

This lesson is a part of the *Coral Anatomy* unit, which explains some of the characteristics and structures of corals, and how they function. Below is a summary of what is included in the entire unit.

UNIT CONTENTS

A. [Background Information](#)

- Coral Anatomy
- Form Fits Function

B. Lessons

[Watch it! What Are Corals?](#)

- A worksheet to accompany the [What Are Corals?](#) video

[Watch it! Form Fits Function](#)

- A worksheet to accompany the [Form Fits Function](#) video

[Interactive Coral Polyp](#)

- A worksheet to label the structures of a coral polyp and describe their function

[Fitting the Function](#)

- A crossword puzzle to match the coral structures to their function

[Coral Anatomy Quiz](#)

- A matching quiz to match the coral structures to their function

[Coral Polyp Eco-Art](#)

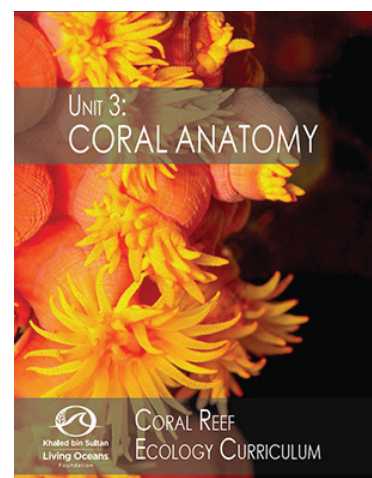
- An art project to design and build a coral polyp using recycled materials

[Form Fits Function](#)

- A lesson to design a poster of any plant or animal, labeling the parts and their functions

[Read it! Swimming Among Soft Corals](#)

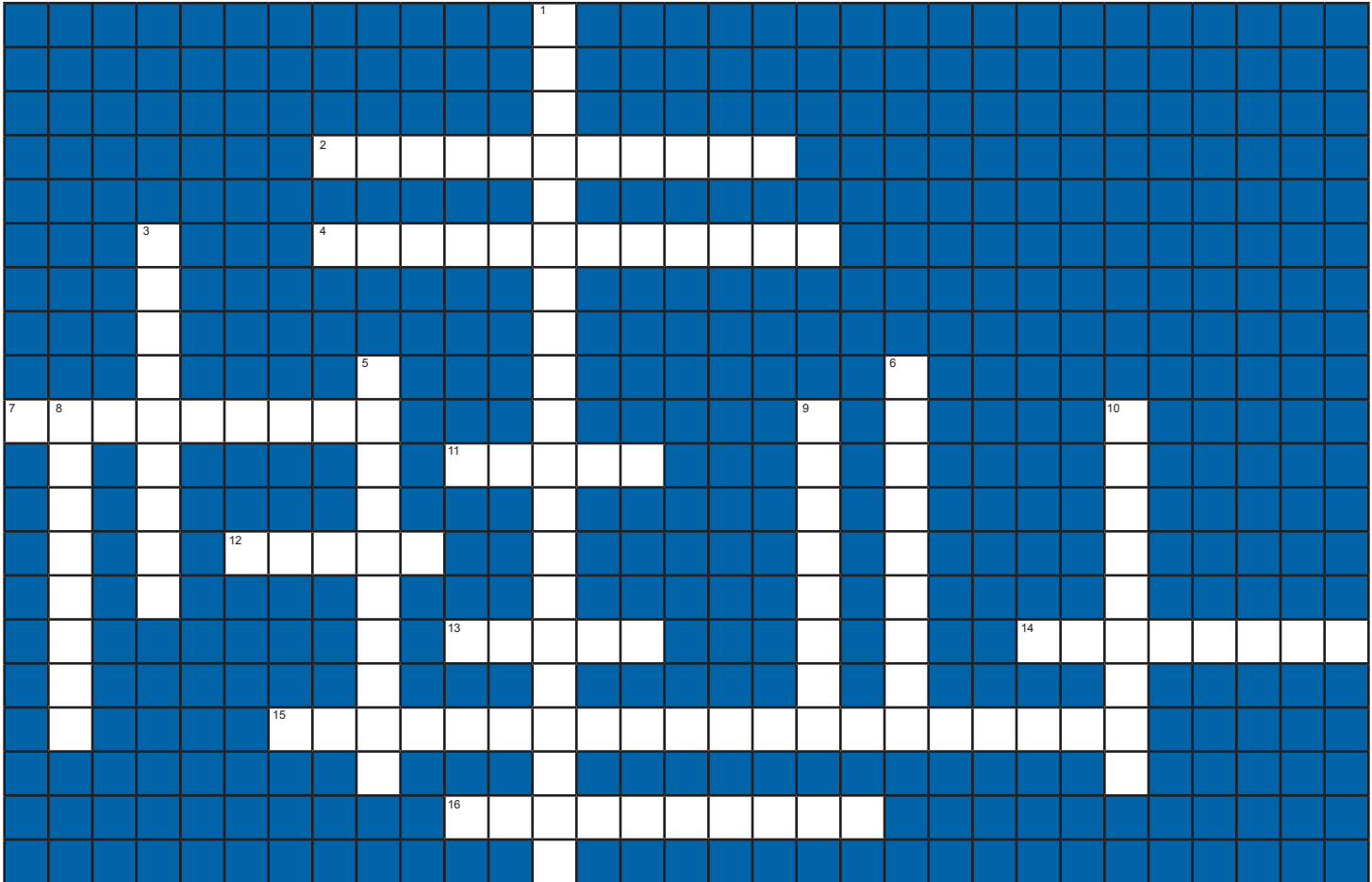
- A worksheet to accompany the [Swimming Among Soft Corals of the Great Barrier Reef](#) field blog



LESSON 1B

FITTING THE FUNCTION

INSTRUCTIONS: Fill in the crossword puzzle using the clues below. You will match the correct coral structure with the function it performs.



ACROSS

2. Allow the stomach to expand and house the reproductive cells.
4. The inner layer derived from the endoderm that lines the gastrovascular cavity absorbing nutrients, excreting mucus and waste, and allowing for gas exchange and reproduction.
7. The structure that holds an individual coral polyp in place allowing for stability. It is sometimes referred to as the cuplike skeleton.
11. Located at the center of the oral disk and expels waste and takes in food.
12. Support the inner folds of the mesenteries.
13. A gelatinous substance that is used to aid in food capture, protection, and remove sediment and waste.
14. The inner layer of cells that houses zooxanthellae.
15. Located in the coenosarc allowing polyps to share nutrients and zooxanthellae.
16. The outer cell layer that houses nematocysts and secretes mucus.

DOWN

1. The area that supports the stomach, absorbs nutrients, excretes mucus and waste, and allows for gas exchange and reproduction.
3. Feeding mechanism that surrounds the oral disk.
5. Specialized stinging cells located in the ectodermis that aid in predation.
6. The tissue that connects colonial coral polyps that contains structures that allow corals to share nutrients.
8. Soft tissue that supports the mouth and tentacles.
9. The jelly-like substance in between the ectodermis and gastrodermis that helps maintain the form of the polyp.
10. Allows coral to anchor to a substrate and secrete more calcium carbonate allowing them to grow.