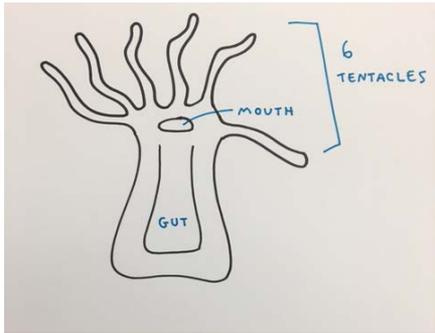
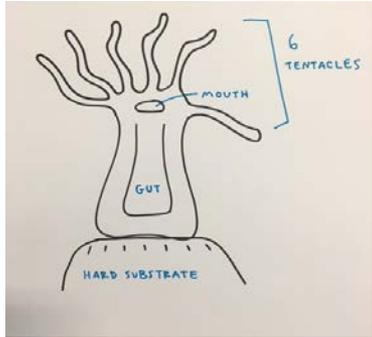
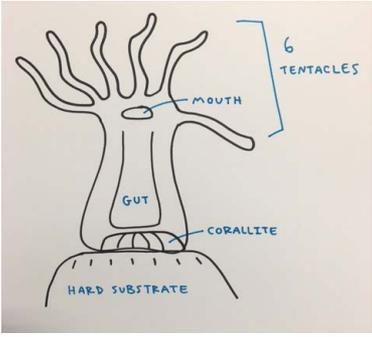
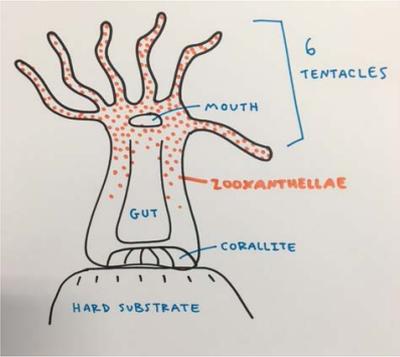
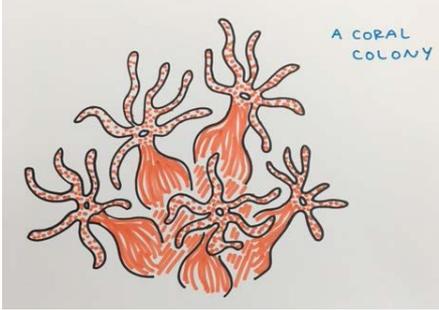


Step	Description	Drawing	Photo
1	<p>Draw the basic coral polyp shape on the board. Explain that the banana will represent the living tissue of the coral polyp.</p> <p>Tell students to peel their section of banana and stand it up on the center of their paper plate.</p>		
2	<p>Draw the mouth and gut inside the polyp and label each.</p> <p>Explain that corals have a mouth and a “blind gut.” This means that both food <u>and</u> waste enter <u>and</u> exit the polyp through the mouth.</p> <p>Tell students to use their straw to poke a hole into the center of the banana. Be careful not to go all the way through the banana, as coral polyps have just one hole, not two.</p>		
3	<p>Draw six tentacles surrounding the mouth of the polyp and label them.</p> <p>Explain that students will be building a coral with six tentacles; these are <b>hexacorals</b>. There are also corals with eight tentacles; these are <b>octocorals</b>. The coral polyp uses its tentacles to capture food (plankton) that is floating by in the water.</p> <p>Tell students to use a toothpick to poke six holes into the banana surrounding the central mouth.</p> <p>Insert six Twizzlers or pretzels to the holes. These represent the tentacles.</p>		

Step	Description	Drawing	Photo
4	<p>Draw the hard substrate below the polyp and label it.</p> <p>Explain that when the polyp settles on a hard substrate, like a rock or the skeleton of another coral reef, the polyp secretes a sticky substance to help it attach. This sticky substance is represented by the jam.</p> <p>Tell students to place the jam onto a Ritz cracker.</p>		
5	<p>Draw the corallite below the blind gut, inside of the polyp, and label it.</p> <p>Explain that the coral polyp makes its own hard, internal skeleton made of calcium carbonate. This is called the <b>corallite</b>. The living tissue of the polyp lives in the corallite. The polyp pulls itself into the corallite for protection from predators.</p> <p>Tell students to carefully break apart two Ritz crackers into large chunks and surround the banana with these pieces. This represents the corallite skeleton.</p>		
6	<p>Use a different color marker to draw zooxanthellae 'dots' on the polyp and label them.</p> <p>Explain that some corals contain tiny algae within their tissue. These tiny algae are called <b>zooxanthellae</b>. Zooxanthellae that live in corals have a mutually beneficial symbiotic relationship with their host. This means that both the coral and the alga benefit from being in the relationship. The zooxanthellae photosynthesize within their coral host and produce sugars that provide nutrition to both the zooxanthellae and the coral. In return, the coral provides protection and assists the growth of the zooxanthellae by passing on nutrients. Approximately 98% of coral's energy comes from zooxanthellae. The zooxanthellae contribute to the bright colors that corals often display.</p> <p>Tell students to add sprinkles to their banana to represent the zooxanthellae.</p>		

# TEACHER GUIDE: Build a Coral Polyp

Step	Description	Drawing	Photo
7	<p>[You do not need to draw this step].</p> <p>Explain that coral polyps are colonial. Tell students to place individual coral polyps together to form a colony.</p>		

# TEACHER GUIDE: Build a Coral Polyp