

Science @ Home

CORAL REEFS

Day 1: Welcome to the Coral Reef

30-45 minutes

- » The World of Coral Reefs (video)
- » A Colorful, Coral-ful Community (coloring)
- » Coral Shapes (video)
- » Coral Shapes Match-Up (activity)
- » Coral Up Close (specimen)

Day 2: Home on the Reef

45-60 minutes

- » Reef Life with Ray! (video)
- » Hide and Sea-k Anemone (craft) *(en español)*
- » Peek-a-boo Clownfish (coloring)
- » Busy Coral Reef (coloring)
- » Ocean Habitat Matchup (activity) *(en español)*

Day 3: Meet the Neighbors

45-90 minutes

- » Coral Reef Adventure Puppet Show (video)
- » Paper Plate Sea Turtle (craft)
- » Paper Plate Butterflyfish (craft)
- » Majestic Moorish Idol (coloring)
- » Swimming Sea Turtle (coloring)

Day 4: All in a Day's Dive

30-45 minutes

- » Diving with Dave (video)
- » Diver's Eye View (video)
- » Divers On Duty (video)
- » Make-Believe Mask (craft)

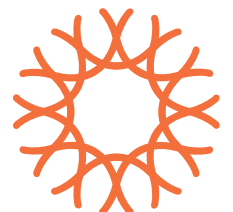
Extension Activities

- » Diver in a Bottle (activity)
- » Diver in a Bottle (video)
- » Relationships on the Reef (video)
- » Live Coral Webcam (video)

Many of the ocean's critters grow up on coral reefs, so it's the perfect place for mini marine biologists ages 4-8 to get their fins wet.

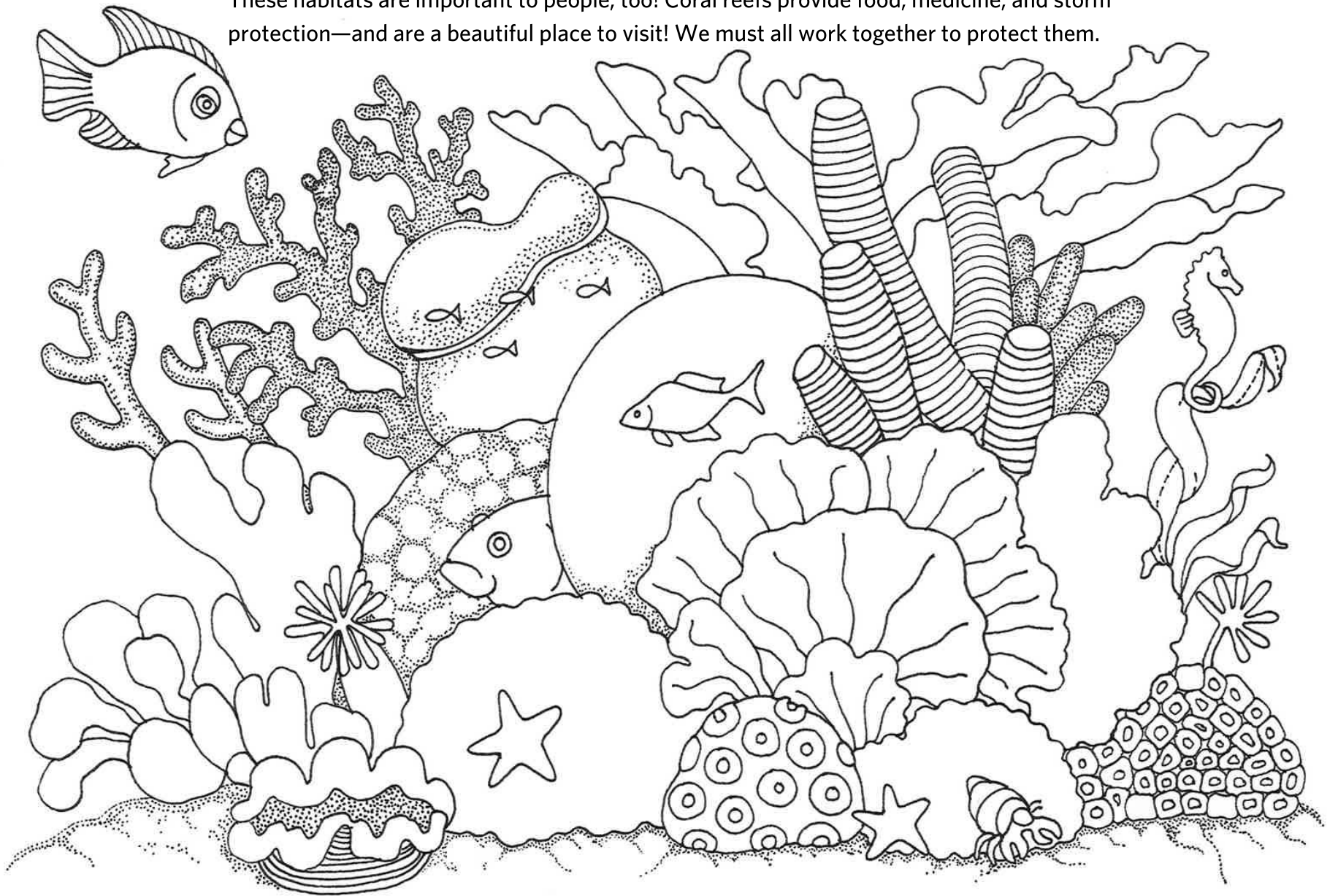
Coral reefs are home to all the colors of the rainbow—and 25% of all fish species in the sea. From microscopic baby corals to mega-sized sea turtles, there's room for everyone on the reef. Enjoy a week under the waves with science crafts, activities, coloring, and more.

Please note: While Science @ Home activities are designed to be conducted by kids, some little ones might need adult help with reading instructions and preparing crafts.



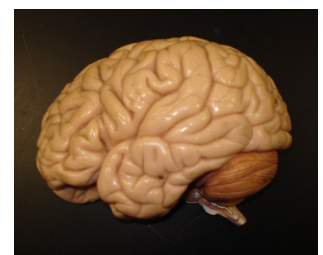
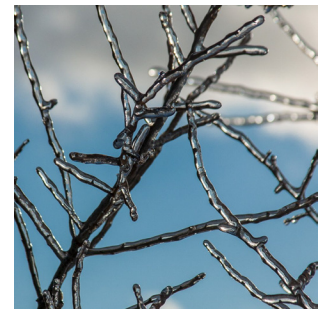
Coral reefs are home to one out of every four species of animals that live in the ocean.

These habitats are important to people, too! Coral reefs provide food, medicine, and storm protection—and are a beautiful place to visit! We must all work together to protect them.



Coral Shapes Match-Up

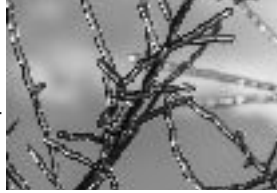
Corals come in many different shapes and textures. Some look like branches, dinner plates, mushrooms, or even brains! Draw a line to connect each coral on the left to an object with a similar shape or texture on the right.



Answers



Coral with branching arms



Icy branch



Brain coral



Brain model



Plate coral



Soup plate



Mushroom coral



Mushroom gills

Images

[Eugorgia](#) © California Academy of Sciences

[Icy Branches](#) by Me in ME

[Brain Coral](#) by Janderk

[Brain Model](#) by biologycorner

Coral by Bart Shepherd © California Academy of Sciences

[Soup Plate with Floral Pattern](#) by Meissen Porcelain Manufactory

[Mushroom Coral](#) by prilfish

[Heart of a Mushroom](#) by Stanley Zimny



Hide and Sea-k Anemones

Sea anemones give clownfish a safe place to live, with their tentacles protecting the clownfish from predators. But what does the anemone get in return? Clownfish can help scare off predatory fish and their poop provides nutrients for the anemone!

Make your own sea anemone and clownfish pair using paper tubes and coffee filters.

Materials

Paper tube
Coffee filters
Coloring implements
Print-out clownfish templates (page 2)
Scissors
Glue or tape (optional)

Directions

1. **Paint** or **color** your paper tube. This will be the sea anemone's body.
2. **Color** one, two, or three coffee filters. These will be the anemone's stinging tentacles. A sea anemone can either pull their tentacles into their body or extend them out to catch food floating in the water.
3. **Insert** the coffee filters into one end of the tube. They will stay inside on their own, or you can glue or tape them inside to make them more secure.
4. **Color** and **cut** out the clownfish. How many clownfish will live in your sea anemone?



El escondite de anémonas

Las anémonas de mar le dan al pez payaso un lugar seguro para vivir, con sus tentáculos protegiendo al pez payaso de los depredadores. Pero, ¿qué obtiene la anémona a cambio? El pez payaso puede ayudar a asustar a los peces depredadores y su popo proporciona nutrientes para la anémona!

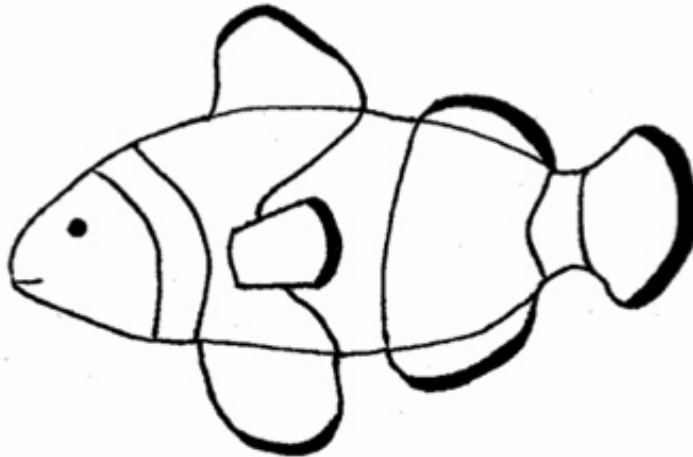
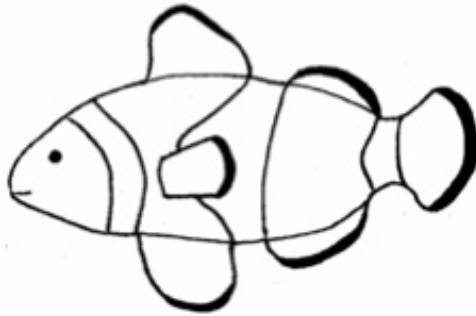
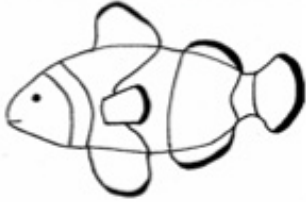
Haz tu propio par de anémonas y peces payaso usando tubos de papel y filtros de café.

Materiales

El tubo de papel
Filtros de café
Materiales para colorear
Plantillas impresas del pez payaso (página 2)
Tijeras
Pegamento o cinta adhesiva (opcional)

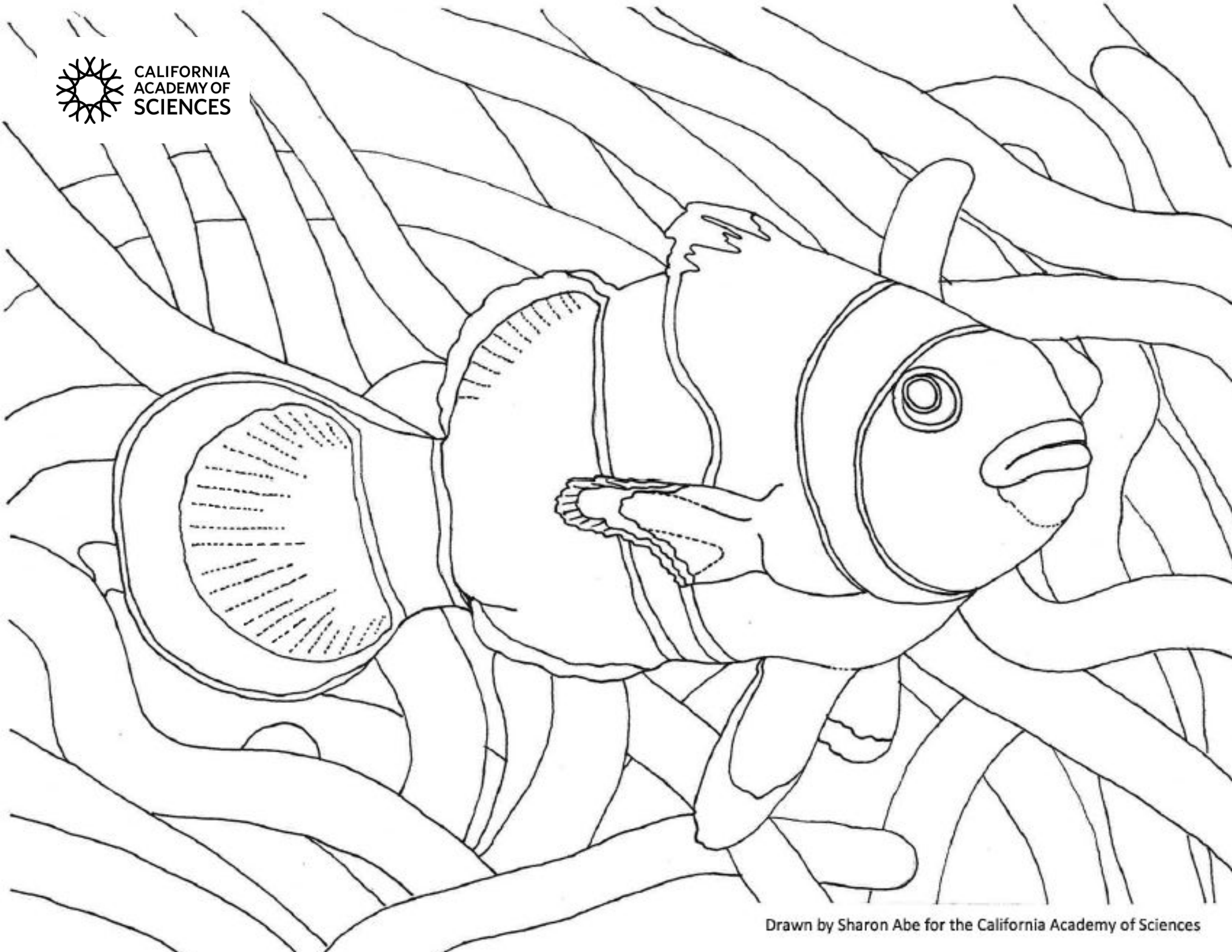
Instrucciones

1. **Pinta o colorea** tu tubo de papel. Este será el cuerpo de la anémona marina.
2. **Colorea** uno, dos o tres filtros de café. Estos serán los tentáculos de la anémona. Una anémona de mar puede tirar de sus tentáculos en su cuerpo o extenderlos para atrapar alimentos flotando en el agua.
3. **Inserta** los filtros de café en un extremo del tubo. Permanecerán dentro por su cuenta, o puedes usar pegamento o cinta en su interior para hacerlos más seguros.
4. **Colorea y corta** el pez payaso. ¿Cuántos peces payaso vivirán en tu anémona de mar?

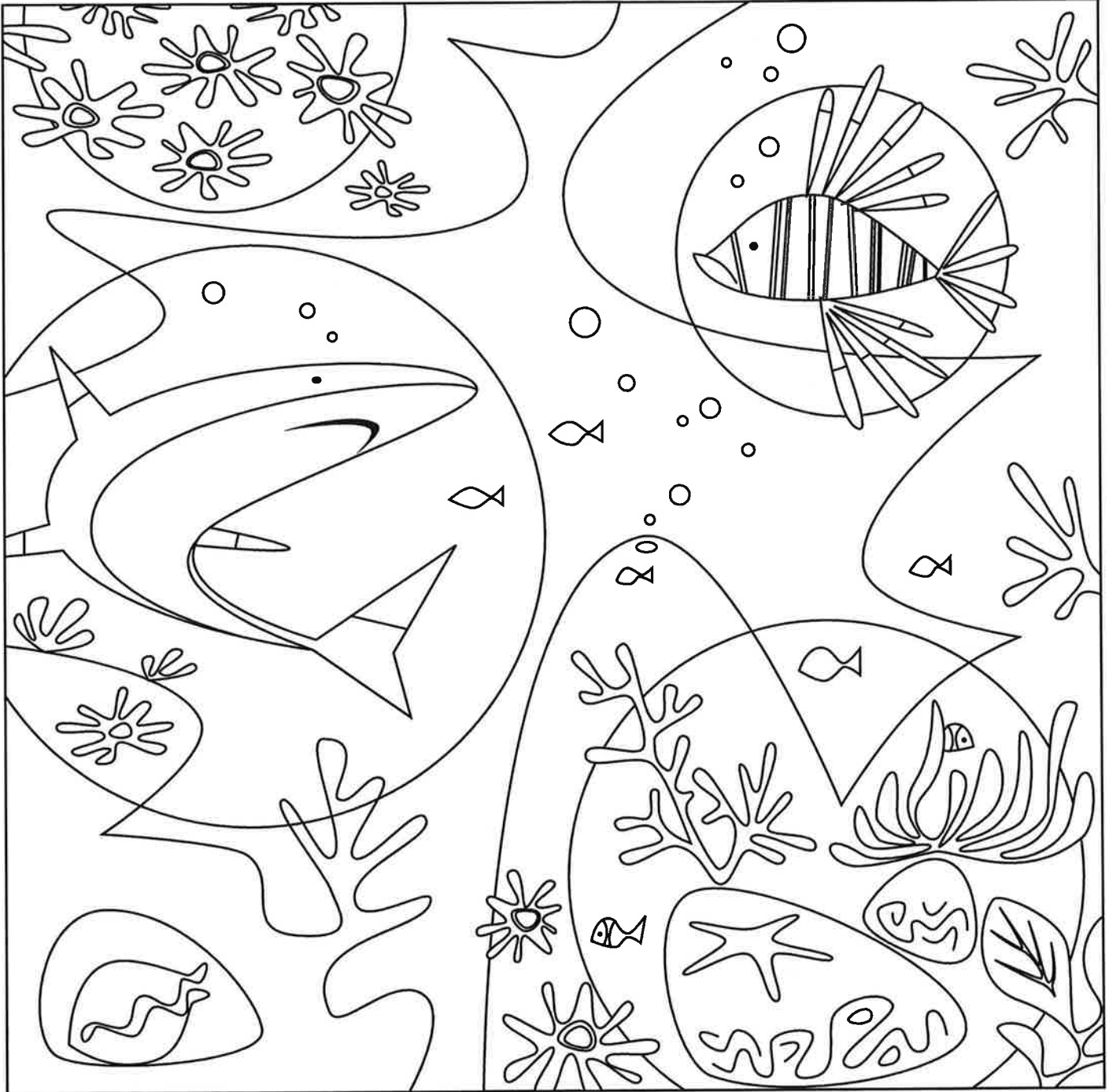




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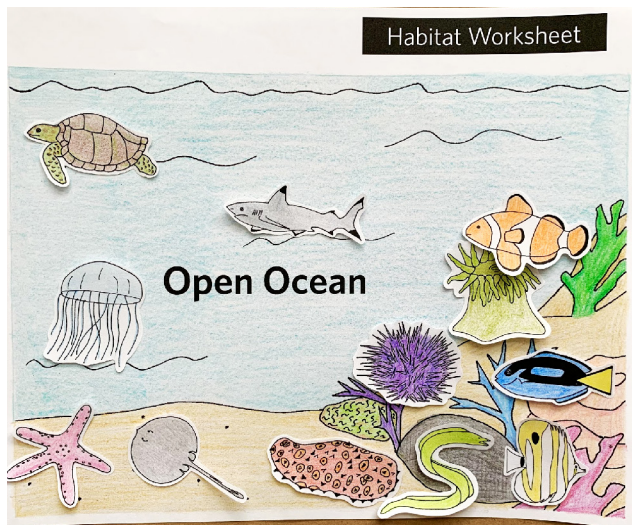


Drawn by Sharon Abe for the California Academy of Sciences



Coral Reef by Michael Bartalos for the California Academy of Sciences





Ocean Habitat Matchup

The ocean is home to many different animals, partly because there are so many unique habitats within the sea. In this activity, discover what part of the ocean different animals call home: the open ocean, coral reefs, or the sandy bottom.

Please note: Younger kids may need some help printing, cutting, and taping during this activity.

Materials

Habitat Worksheet (page 3)
Animal Cards (page 4)
Scissors
Colored pencils
Tape or glue sticks

Directions

1. **Print out** the Habitat Worksheet and Animal Cards found on pages 3–4.
2. **Color** the habitat on the worksheet.
3. **Color and cut out** the animals on the cards.
4. **Tape or glue** the animals onto the worksheet. To figure out which animal should go where, check out the Habitat Information on page 2. Many can be found in more than one habitat, so place them where you think they fit best.



Habitat Information

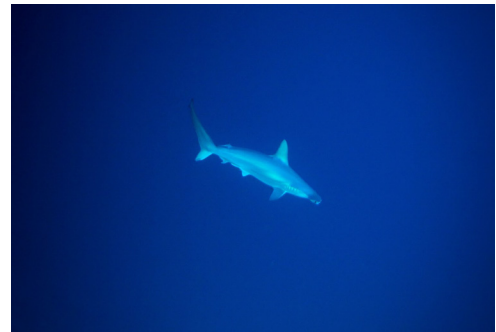
Coral reefs are underwater habitats created by corals. Corals themselves are actually animals, related to anemones and jellies. Fish that live in coral reefs will be small and slender, so they can swim between corals or hide in the cracks. These fish usually have bright colors. Other animals found in coral reefs—including the corals themselves—are either slow or don't move at all.



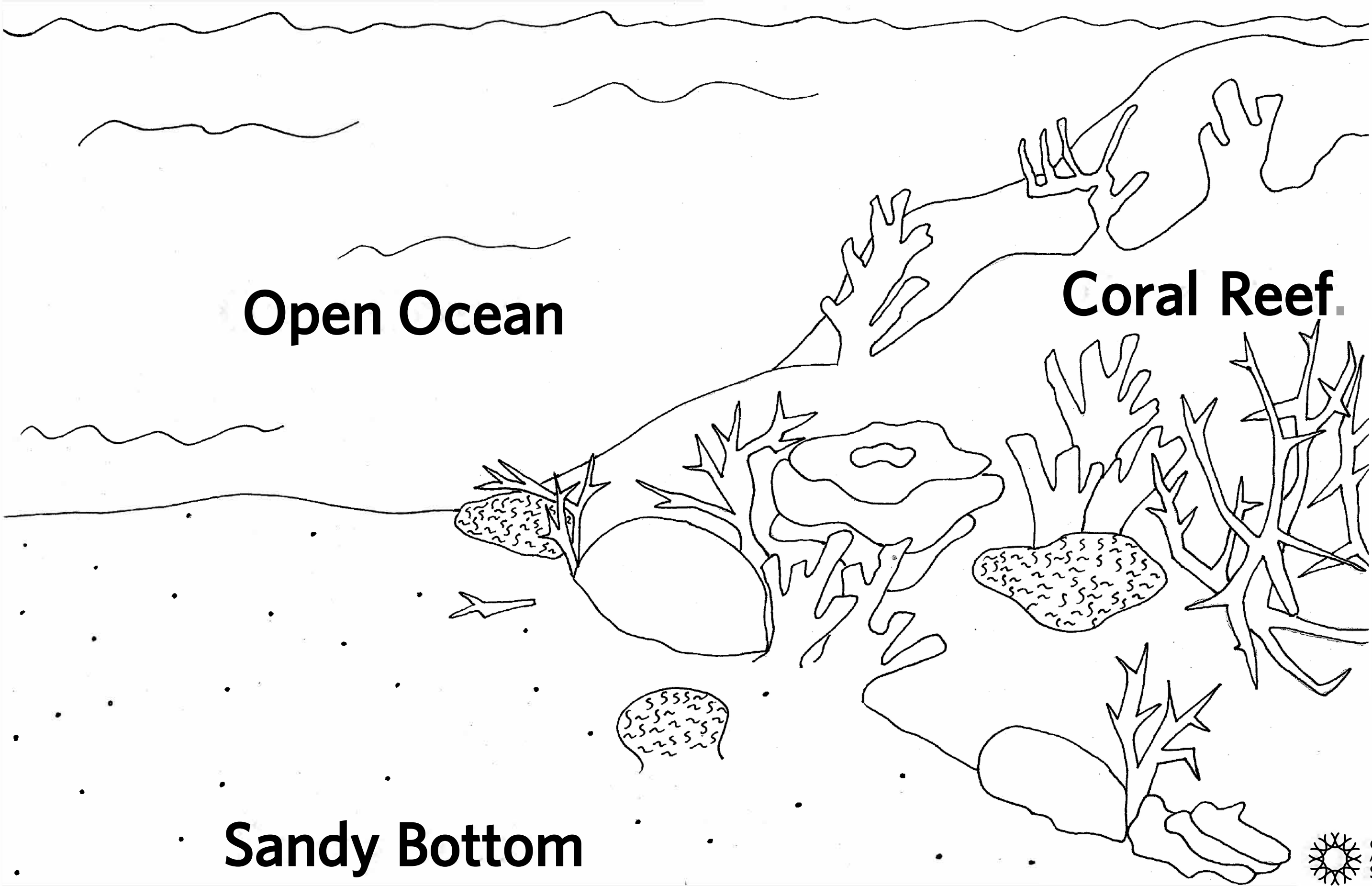
The sandy bottom is just that: the sandy bottom of our ocean. Very small animals live between the grains of sand while larger animals, like stingrays and different species of flatfish, bury themselves beneath it. Fish found on the sandy bottom will be flat, with their belly resting on the sand and their eyes above. They will often be a neutral color that will blend in with sand.



The open ocean is where you can find animals that are strong swimmers. They are often large, like whales or sharks, or swim in schools, like anchovies. Some animals, like jellies, float through the open ocean instead of swimming!

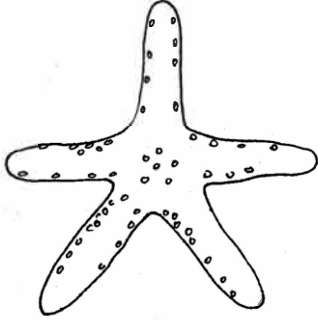


Habitat Worksheet



Animal Cards

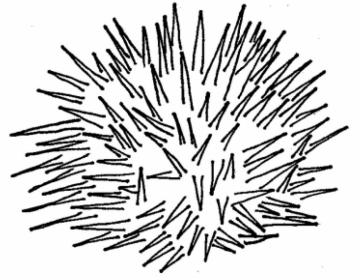
Sea Star



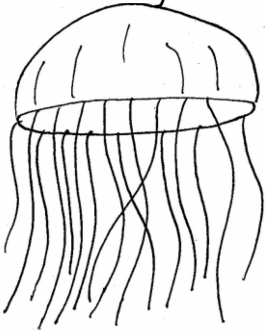
Blue Tang



Sea Urchin



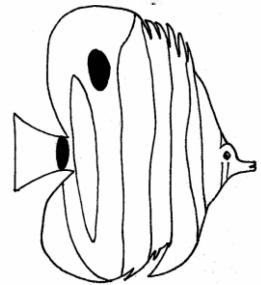
Jelly



Eel



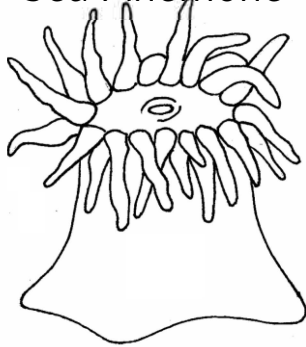
Butterflyfish



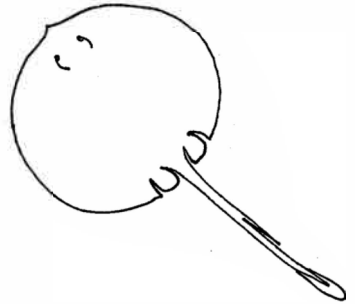
Sea Cucumber



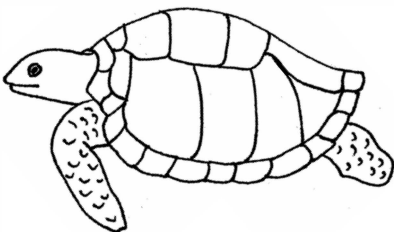
Sea Anemone



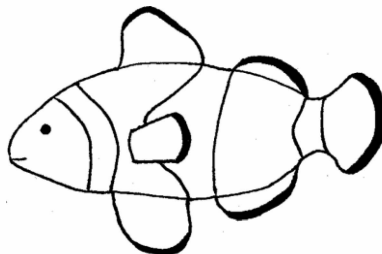
Stingray



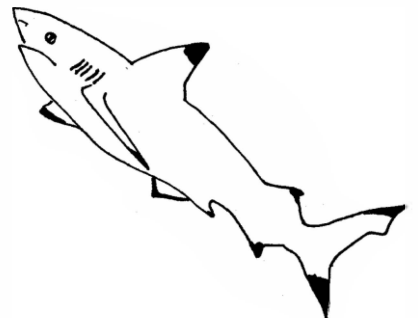
Sea Turtle

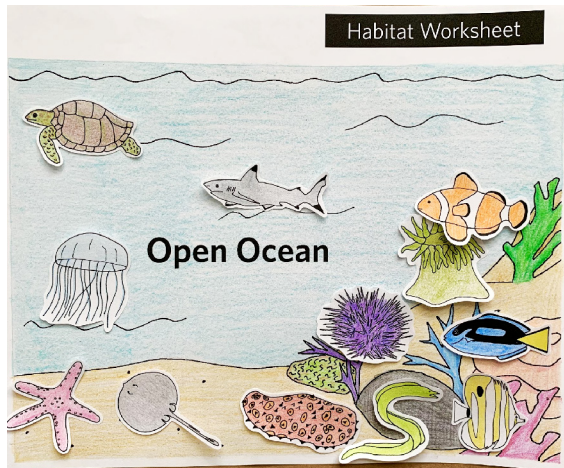


Clownfish



Shark





Hábitat oceánico: Emparejamiento

El océano es el hogar de muchos animales diferentes, en parte porque hay tantos hábitats únicos dentro del mar. En esta actividad, descubre qué parte del océano diferentes animales llaman hogar: el océano abierto, los arrecifes de coral o el fondo arenoso.

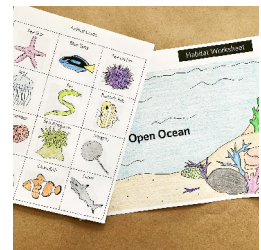
Ten en cuenta: Los niños más pequeños podrán necesitar ayuda para imprimir, cortar y usar la cinta adhesiva.

Materials

Hoja de trabajo del hábitat (página 3)
Tarjetas de animales (página 4)
Tijeras
Lápices de colores
Cinta adhesiva o pegamento

Instrucciones

1. **Imprima** la hoja de trabajo y las tarjetas de animales que se encuentran en las páginas 3–4.
2. **Colorea** el hábitat en la hoja de trabajo.
3. **Colorea** y corta los animales en tus tarjetas de animales.
4. **Usa la cinta o pega** los animales en la hoja de trabajo. Para averiguar qué animal debe ir a dónde, consulta la Información de hábitat en la página 2. Muchos de estos animales se pueden encontrar en más de un hábitat, así que colócalos donde creas que encajan mejor.



Información de hábitat

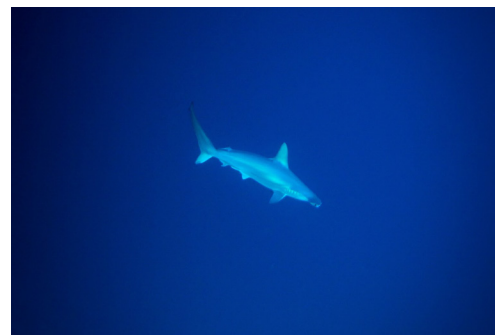
Arrecifes de coral son hábitats submarinos creados por corales. Los propios corales son en realidad animales, relacionados con anémonas y medusas. Los peces que viven en arrecifes de coral serán pequeños y delgados, por lo que pueden nadar entre corales u esconderse en las grietas. Estos peces por lo general tienen colores brillantes. Otros animales que se encuentran en los arrecifes de coral, incluidos los propios corales, son lentos o no se mueven en absoluto.



El fondo arenoso es justo eso, el fondo arenoso de nuestro océano. Los animales muy pequeños viven entre los granos de arena, mientras que los animales más grandes, como las rayas y diferentes especies de peces planos, se entierran debajo de ella. Los peces que se encuentran en el fondo arenoso serán planos, con su vientre descansando sobre la arena y sus ojos arriba. A menudo serán de un color neutro que mezclará con la arena.



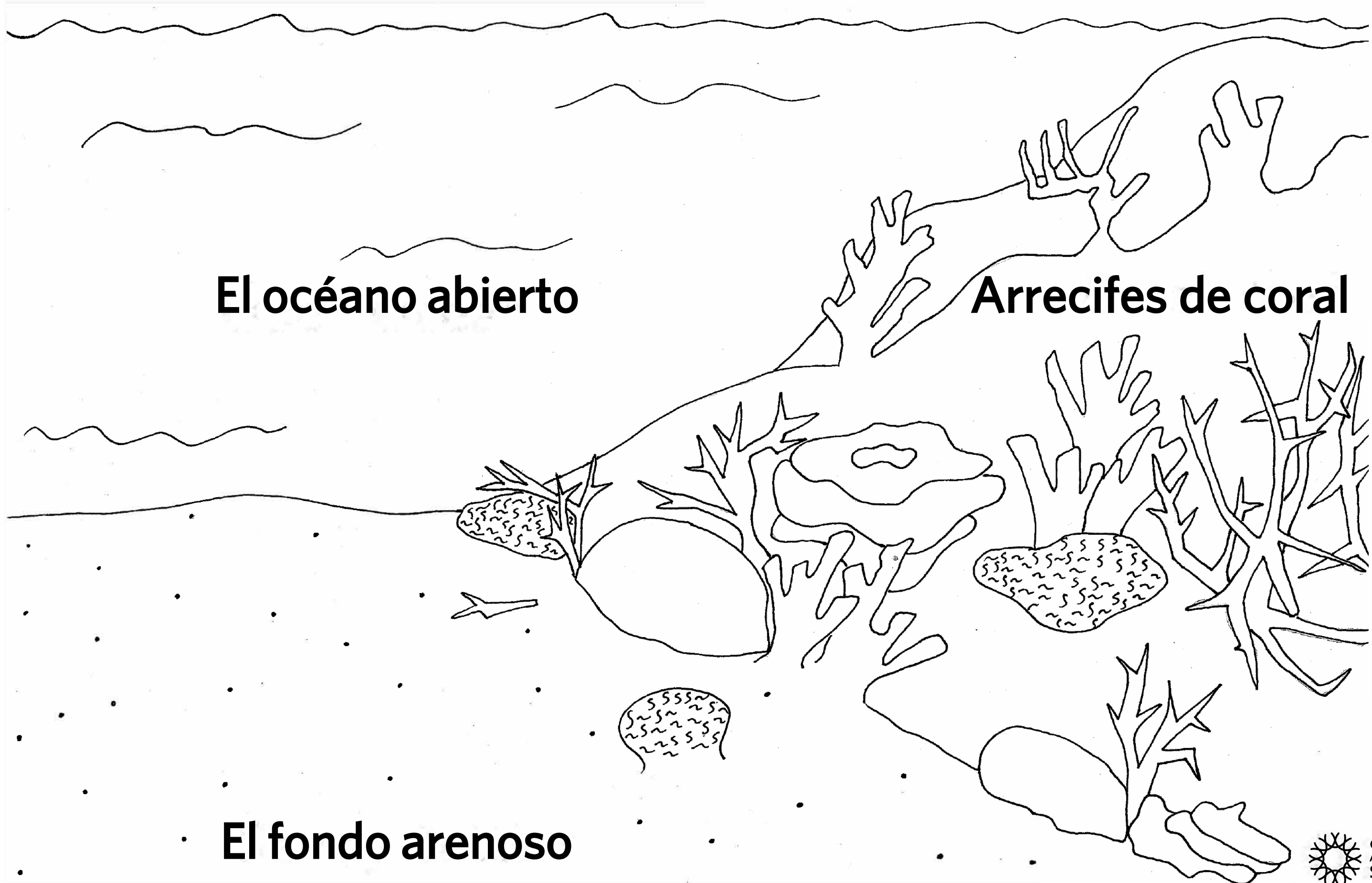
El océano abierto es donde se pueden encontrar animales que son nadadores fuertes. A menudo son grandes, como ballenas o tiburones, o nadan en escuelas, como anchoas. ¡Algunos animales, como las medusas, flotan a través del océano abierto en lugar de nadar!



El océano abierto

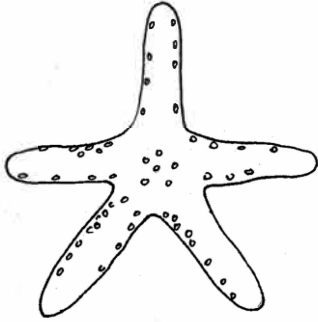
Arrecifes de coral

El fondo arenoso



Tarjetas de animales

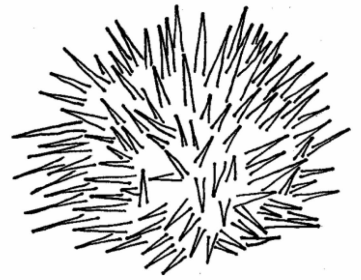
Estrella de mar



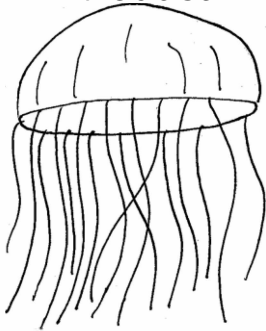
Cirujano rayado



Erizos de mar



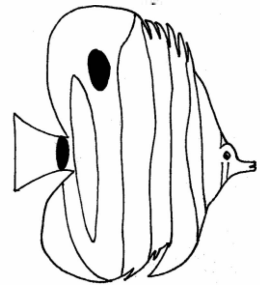
Medusa



Anguila



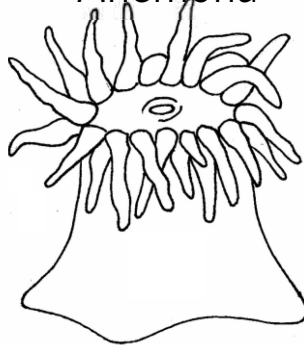
Pez mariposa



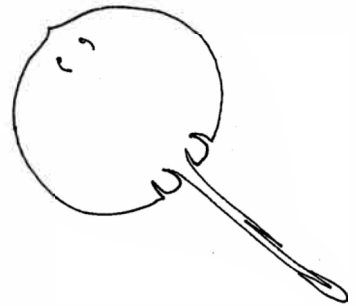
Pepino de mar



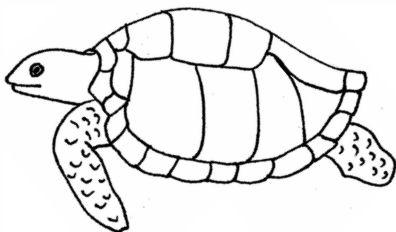
Anémona



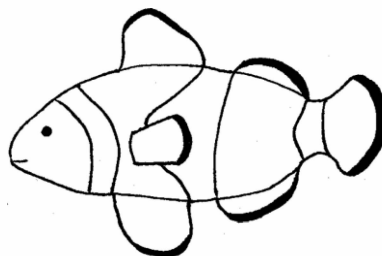
Mantarraya



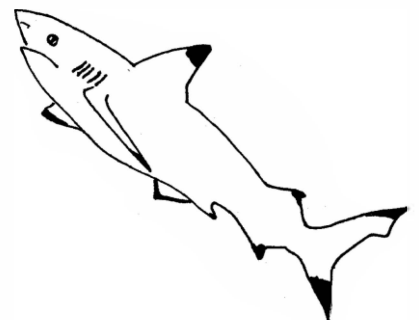
Tortuga marina



Pez payaso



Tiburón





Paper Plate Sea Turtle

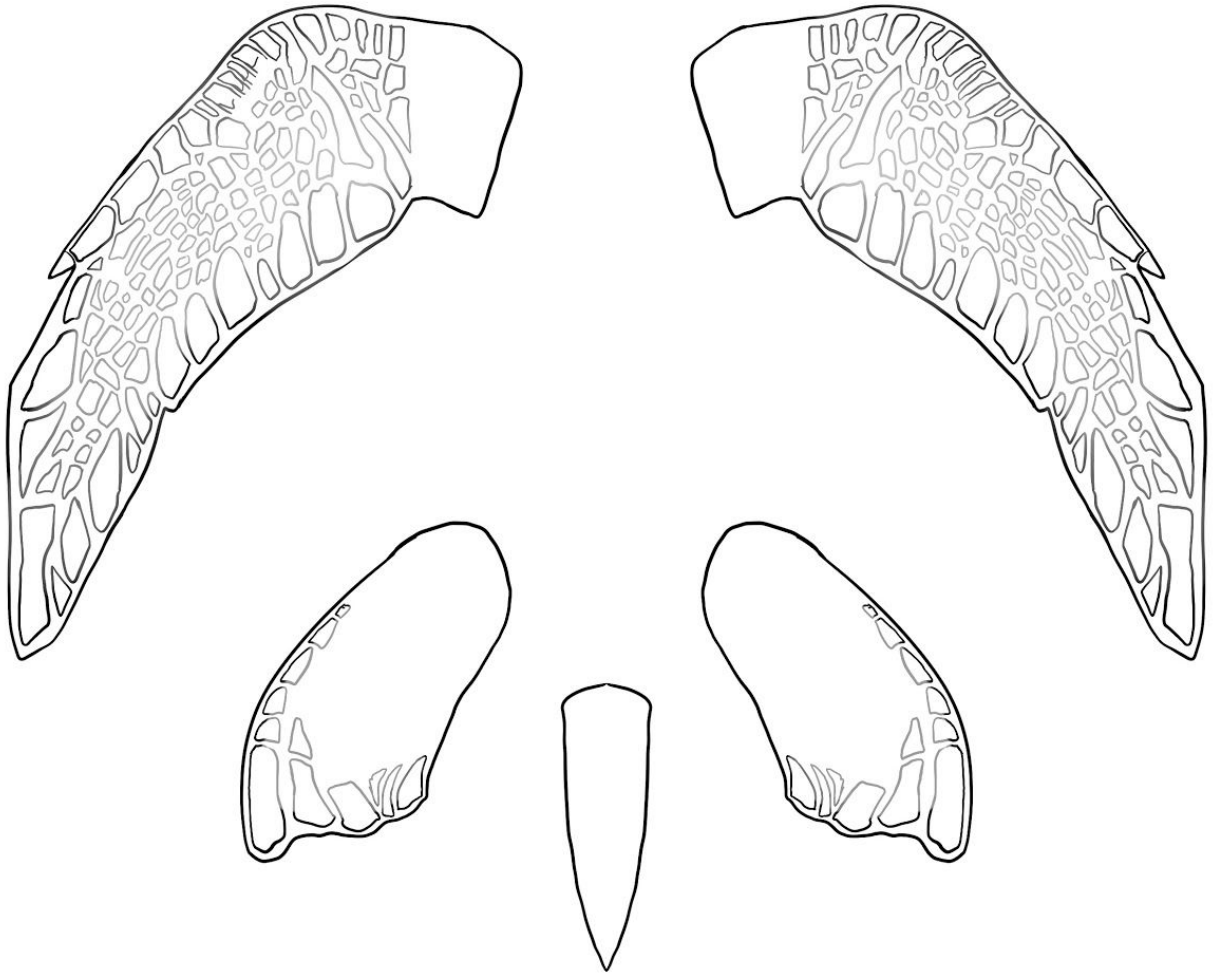
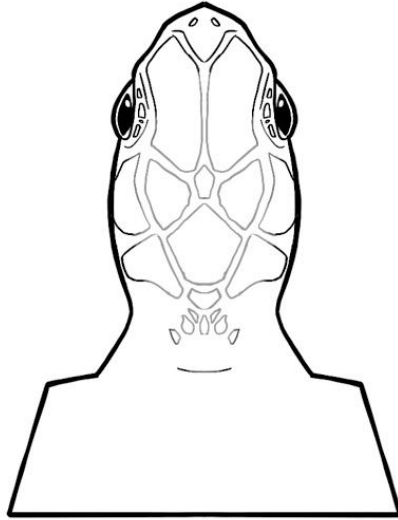
Sea turtles spend almost their entire lives underwater, even though they breathe air. As you create your turtle, imagine paddling through the colorful coral reef around you. What would it be like to carry your home on your back?

Materials

1 paper plate
Crayons, colored pencils, or markers
Print-out templates (page 2)
Glue stick or tape
Optional: googly eyes

Directions

1. **Print out** the second page and color your turtle's head, flippers, and tail. Use colors like green, brown, and yellow to make it look realistic—or get creative instead!
2. **Cut out** the head, flippers and tail. Sea turtle flippers act like paddles in the water, but they make it difficult to move on land.
3. **Color** the paper plate to be your turtle's shell. Turtles have a layer of horny plates called "scutes" on the outside of their shells. Draw shapes like circles, squares, triangles, and hexagons to create your turtle's scutes. What other shapes can you think of?
4. **Tape or glue** the turtle's head, flippers, and tail to the paper plate shell.





Paper Plate Butterflyfish

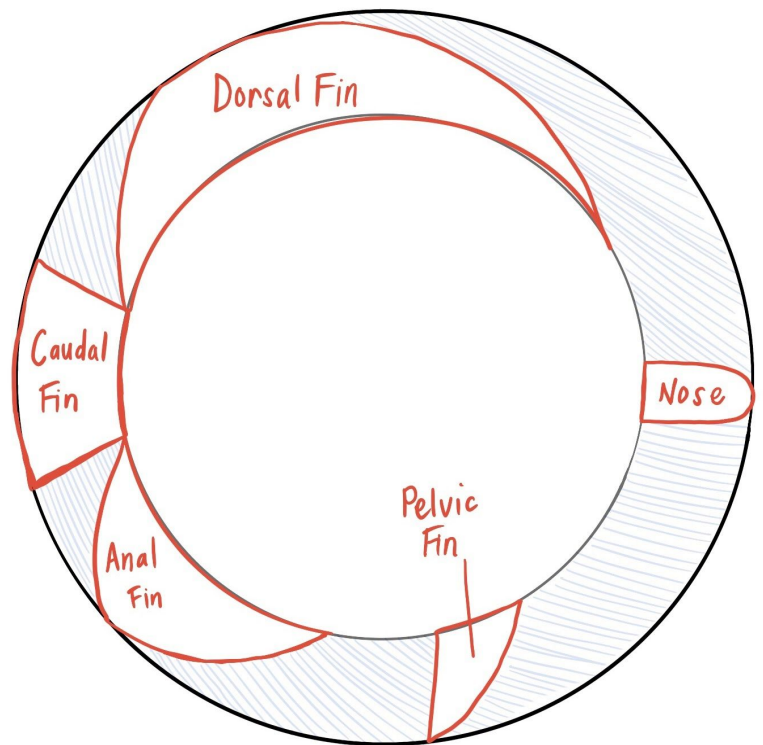
Butterflyfish are a group of fish that live in coral reefs. Like real butterflies, they are often brightly colored, with yellow, orange, black, and white patterns. Many butterflyfish also have an eyespot near their tail to distract predators.

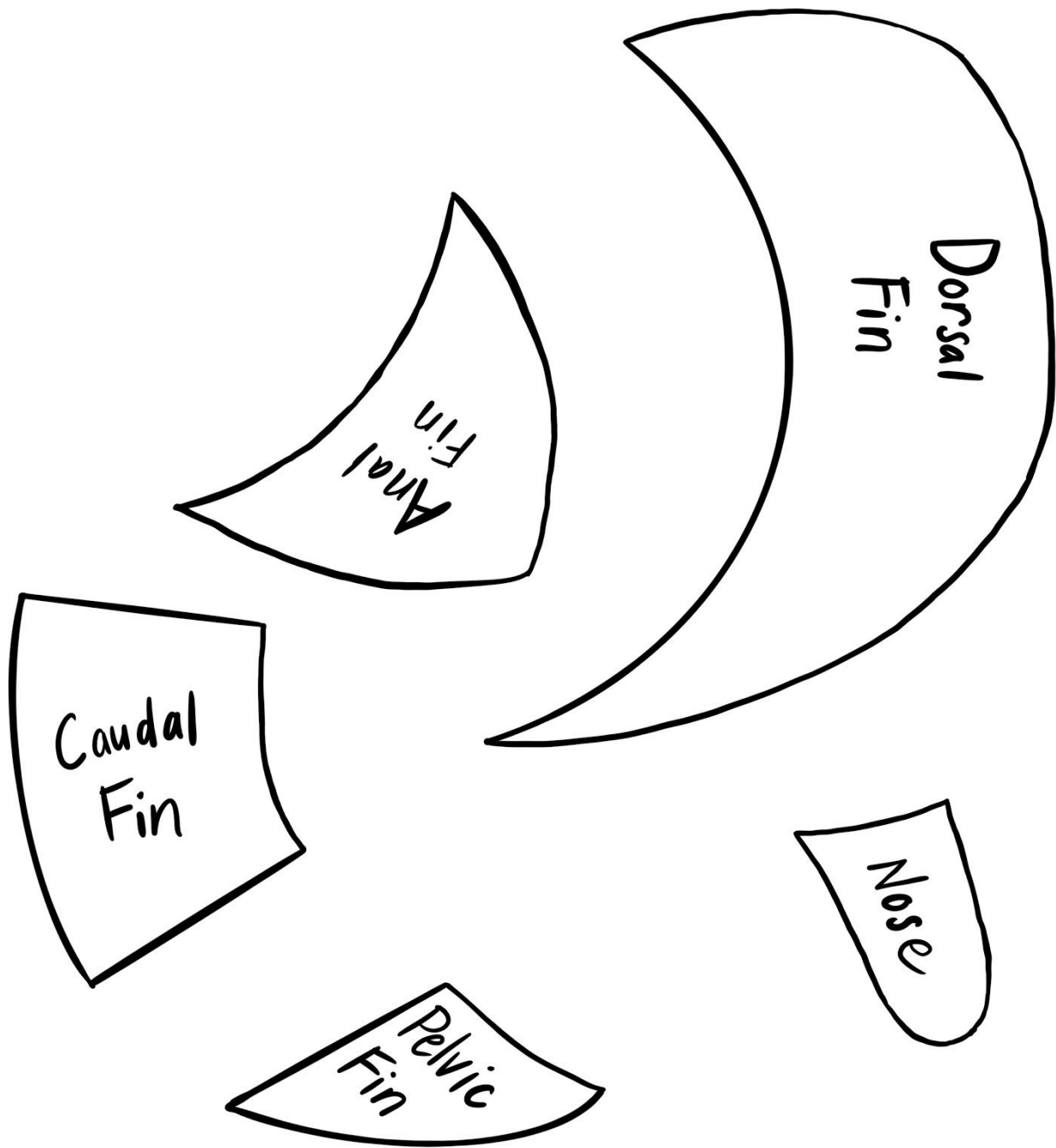
Materials

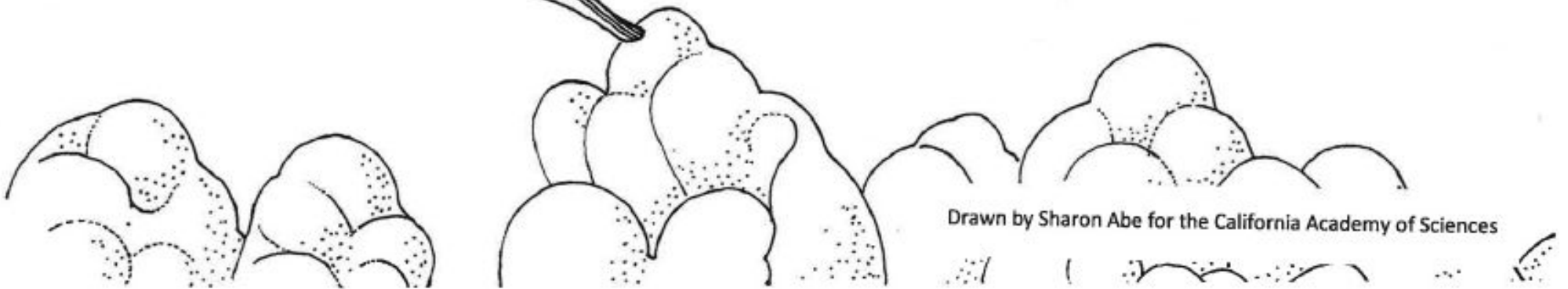
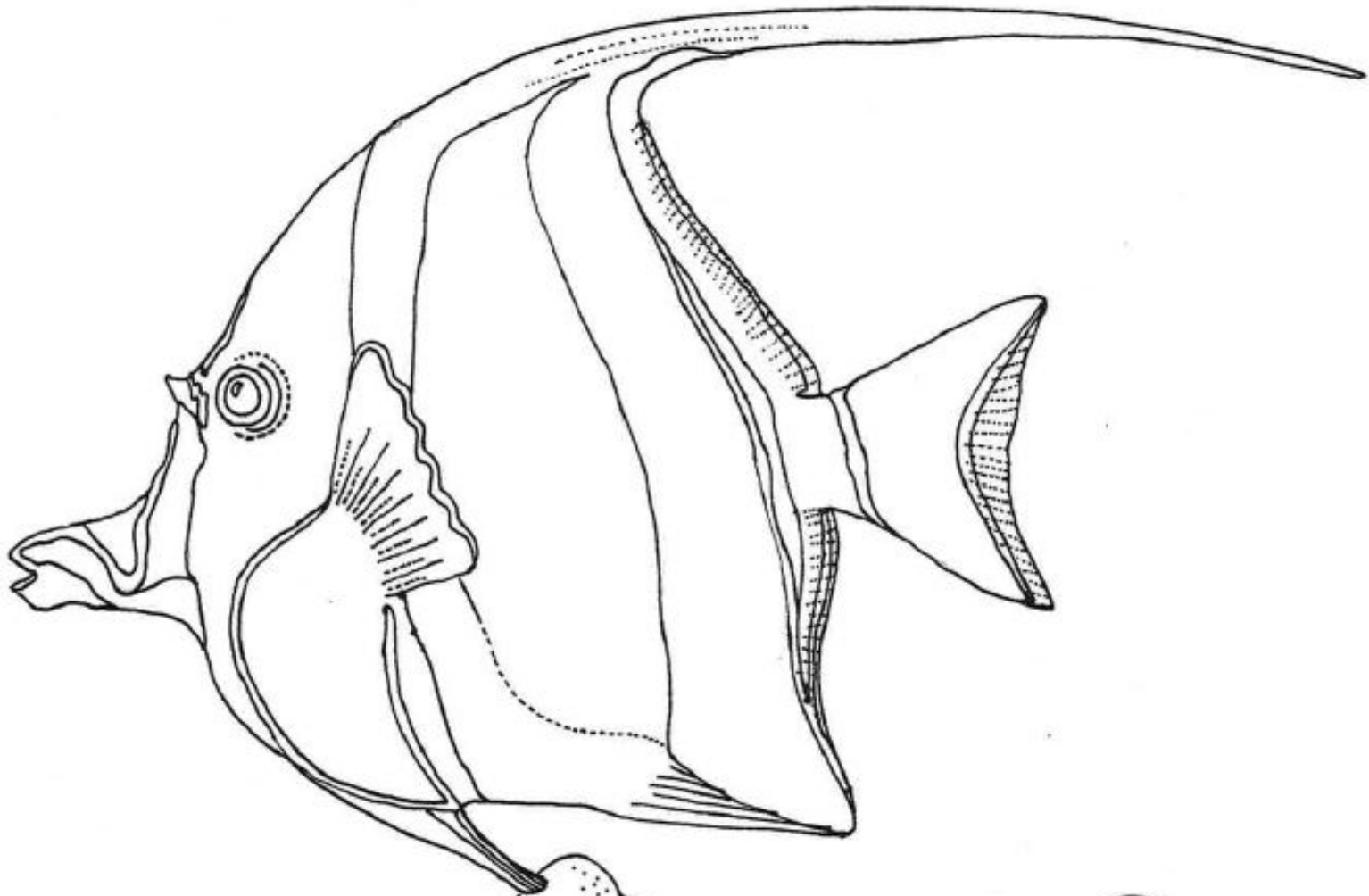
- 1 paper plate (9")
- Crayons, colored pencils, or markers
- Print-out templates (page 2)
- Optional: googly eyes and a glue stick

Directions

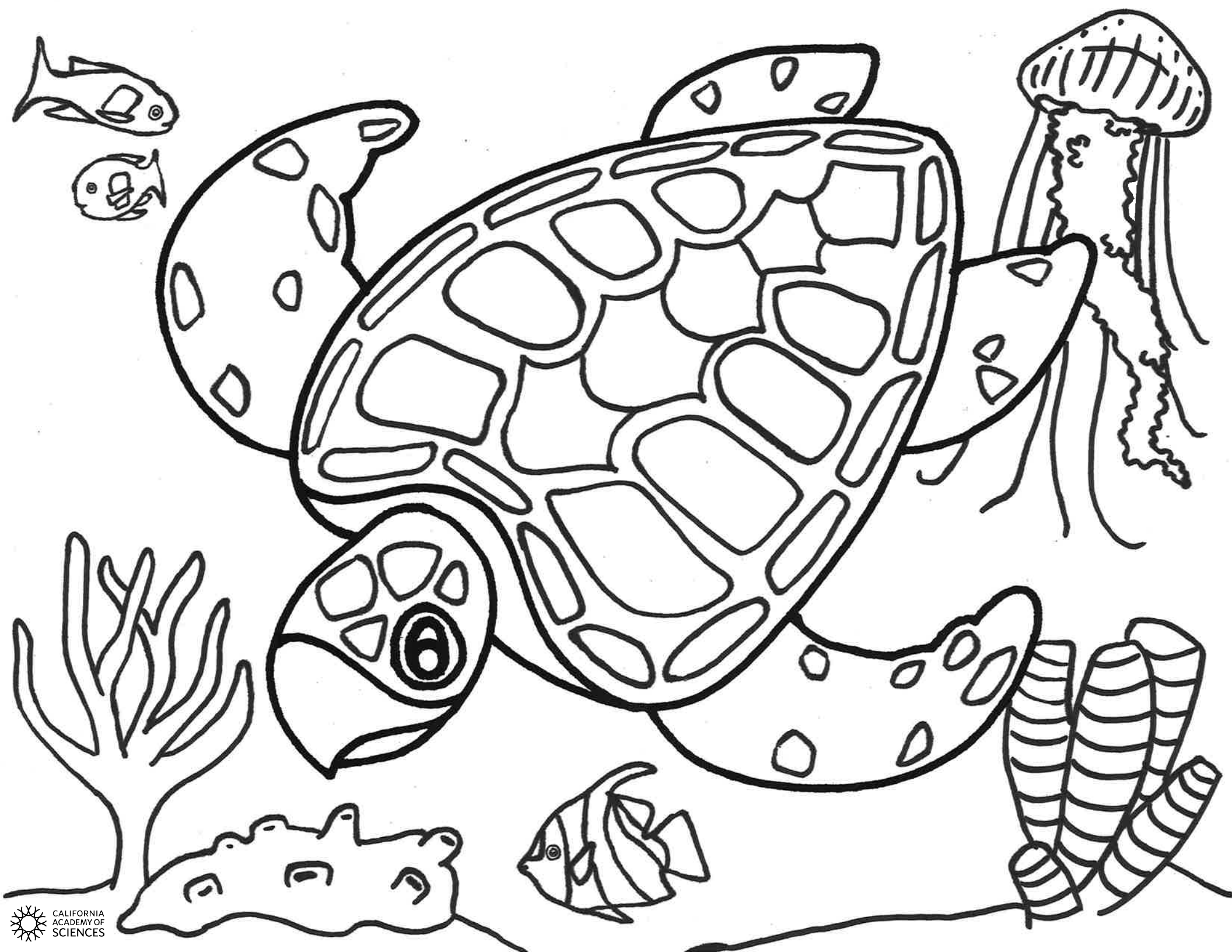
1. **Print out** the second page and cut out the 5 template pieces. If you're using a 6" plate, print out page 2 at 67% scale.
2. **Trace** the pieces onto the textured outer part of the plate, arranged like the picture to the right. These will be your fish's fins.
3. **Cut away** the parts of the plate that are not part of your fish's fins. You can cut a small triangle on the front of your fish's nose to give it a smile.
4. **Color** your fish. The example above is a copperband butterflyfish, but you can design your own fish or look up photos for inspiration.
5. **Optional:** Use a glue stick to stick a googly eye to your fish.







Drawn by Sharon Abe for the California Academy of Sciences





Make-Believe Mask Craft

Get ready to explore the coral reef with your own craft snorkel and mask. What might you see underwater? Fish? Coral? A sea turtle? An ocean of adventure awaits!

Note: Younger kids may need some help with printing, cutting, and taping.

Materials

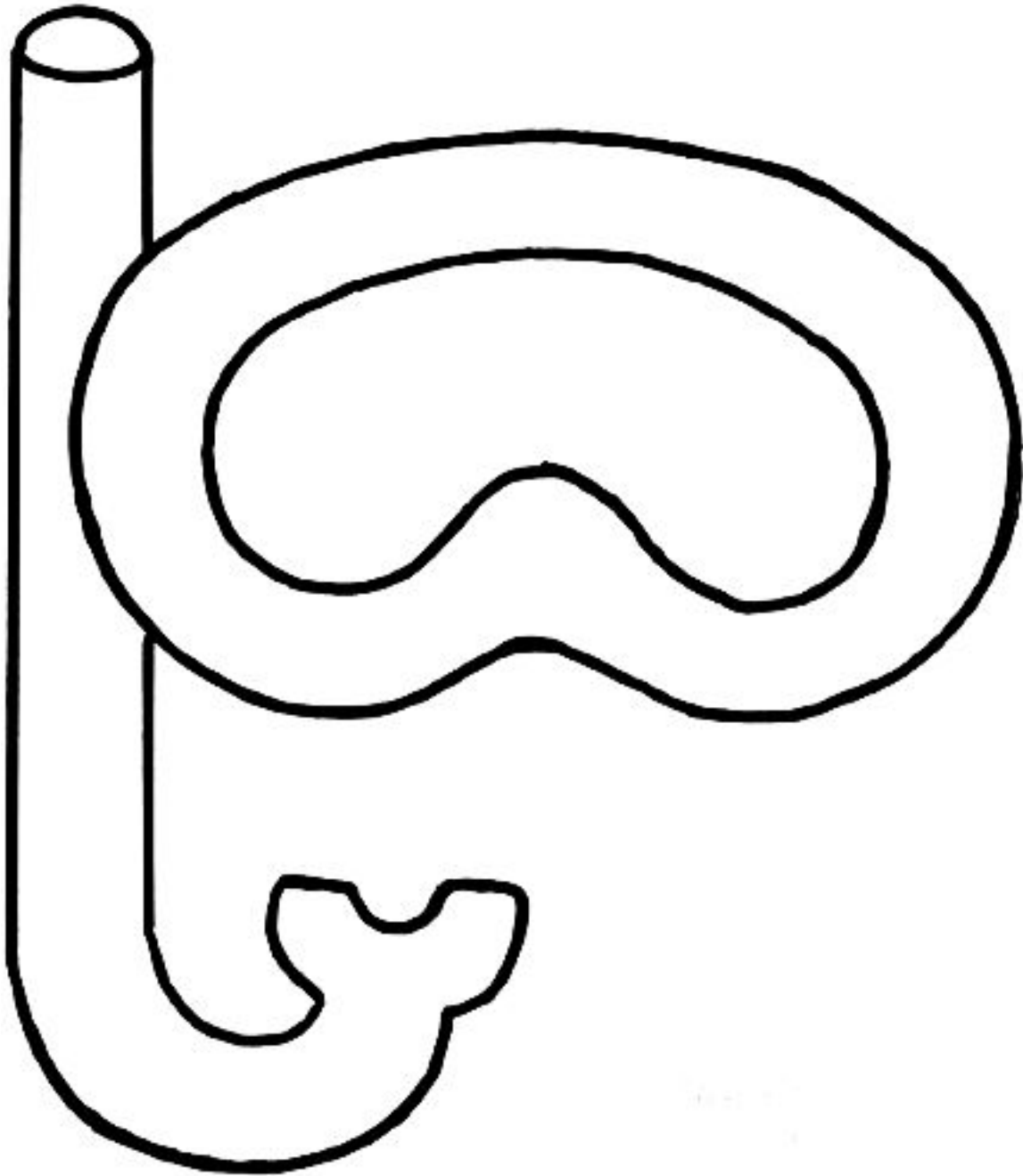
Snorkel mask print-out (page 2)
Scissors
Crayons, markers, or colored pencils
Tape
Popsicle stick (or unsharpened pencil or chopstick)

Directions

1. **Print** out the snorkel mask template on the second page.
2. **Color** and decorate the snorkel mask.
3. **Cut out** the snorkel mask outline. Then cut out the middle section of the mask where you look through.
4. **Tape** a popsicle stick (or pencil, or chopstick) to the back, along the long part of the snorkel. Make sure the stick hangs down a couple inches to create a handle.
5. **Pretend** to be a snorkeler or diver as you wear your mask. Explore your home as if you were exploring coral reefs, underwater caves, or sunken ships.



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Diver in a Bottle

Materials

Water bottle
Eye dropper
Marker (optional)

Directions

1. Fill the water bottle completely full with water.
2. Use the eyedropper to suck up water until it is about one-third full.
3. Insert the eyedropper into the top of the water bottle. The top of the eyedropper should barely float above the water. If it floats too much, suck up more water. If it sinks, dump it out and try again.
4. Cap the water bottle tightly. Now, squeeze the sides of the bottle. What do you notice happens?
5. Stop squeezing and see what happens. Do this several times and notice what happens to the air bubble inside the eyedropper. Why do you think this is happening?
6. Now try to get the eyedropper diver to float in the middle of the bottle.

What's Happening?

Squeezing the bottle causes the eyedropper diver to sink. This is because the increased pressure compresses the air at the top of the eye dropper. This increases the mass (and density) of the eyedropper diver—causing it to sink.

The eyedropper diver hovers in the middle without floating or sinking when it has equal density as the water around it. This is called neutral buoyancy. Neutral buoyancy requires different amounts of pressure at different depths.

Academy research divers must control their buoyancy while exploring coral reefs. How do you think the pressure would affect their buoyancy as they dive to deeper parts of the reef?

