

For Creative Minds

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Animal Hide and Seek

Do you like to play hide and seek? For animals, this game is a matter of life or death. Prey must hide or risk becoming another animal’s next meal. Sometimes a predator hides and waits for its meal to come swimming by! Either way, camouflage helps these animals survive.

Look for the picture of the animal listed in bold to see the camouflage description.

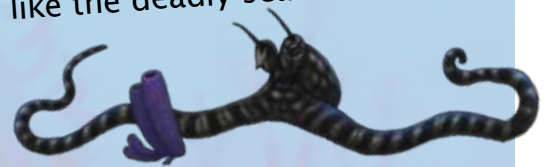
Hiding in Plain Sight

When an animal matches the color of its environment, it is called *cryptic camouflage*. Many fishes and sharks have colors that blend into the water. But what about spots and stripes? On land, a tiger’s stripes help it blend in with the tall grass and break up the tiger’s outline. This makes it hard to see how big it is. This is known as *disruptive coloration*. Many ocean animals have spots or stripes, from fish (including **clownfish**) to eels, rays, and even **catsharks**. If you are as big as a **whale shark**, it is good to have both!



Pretending to be Something Else

If it looks like a sea snake and slides like a sea snake, it must be a sea snake—right? Not always. *Mimicry* is when one animal copies how another animal looks. When attacked by grouper, a **mimic octopus** can look like the deadly sea snake. The grouper avoid it at all costs. Wouldn’t you?



Transparency

Being as clear as glass (like a **jellyfish**) is another important way to avoid being seen.





Now You See Me, Now You Don't

On land, the chameleon is known for its ability to change colors. It might turn green as it sits on a leaf or brown as it darts across the ground. But did you know some ocean animals change colors, too? Seahorses (including cousins **leafy sea dragons** and **pipefish**) change colors to match their surroundings. Flounders and octopuses can match not only the color but the pattern of the ocean floor!

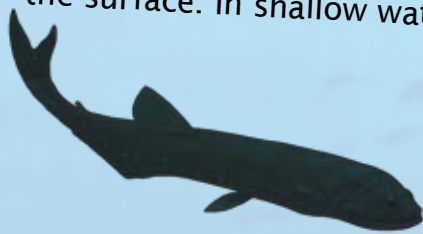


Red Fish, Blue Fish



Have you ever wondered why some fish are brightly colored? On land, the colors red and yellow are easy to spot. That's why they are used for things like traffic lights and street signs. But coral reefs can be a rainbow of colors—a perfect place for a **queen parrotfish** and **blue tangs** to hide.

In deep water, red can also be hard to see because red is the first color to be absorbed at the surface. In shallow water at night, red looks gray. **Soldier** or **squirrel fish** are red.



Light from Inside

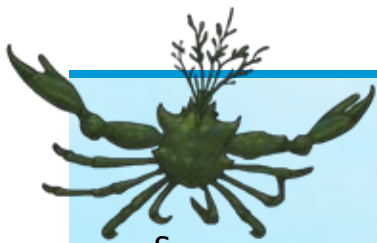
Counter illumination is when an animal lights up its own body from the inside, so the outline of its dark body can't be seen. Squid and some types of fish, like the deep-sea **bristlemouth**, can seem almost invisible to other animals hunting in the waters below.



Bubbles

Some **parrotfish** make a clear, mucus "sleeping bag" cocoon at night. The mucus covers their scent, making it more difficult for predators to find them.





Wearing a Mask

Some animals make their own camouflage. *Masking* is when an animal uses something in its environment to hide itself. Some **crabs** hide by sticking bits of kelp to their shells. Talk about playing with your food!



Shape Up!

For some animals, hiding is not just about color—it's about shape too. The **leafy sea dragon** has leaf-like flaps of skin and floats among sea plants. Stonefish, as you might guess, look like stones. **Pipefish** look like the blades of grass in which they live.



Darkness and Light

Sharks, whales, and rays have dark backs and light bellies. This is known as *counter shading*. To animals swimming above them, the dark color blends in with the dark water below. To animals swimming below them, the light color blends in with the sunlit water above.



Watch Out!

Sometimes bright colors warn of danger. Orange and white **clownfish** can often be found among the tentacles of the sea anemone. The sea anemone looks like a harmless plant, but is really an animal with a poisonous sting. The clownfish makes special mucus to protect itself from the sting. Other sea creatures are not so lucky! The bright orange of the clownfish may warn other animals to stay away from the anemone's poison!







Animal Classification

Fish are not the only type of animals that live in the ocean. Just as there are many different classes of animals that live on land, there are many classes of animals that live in the ocean.

Marine reptiles (sea turtles and sea snakes) and **mammals** (dolphins and whales) come to the surface to breathe the air they need. Other marine animals can get their oxygen from the water.

Fish are divided into *two major groups*: **fish with bones** and **fish with cartilage** (like our ears) instead of bones. Sharks and rays are examples of fishes with cartilage. Angelfish and parrotfish are examples of fishes with bones.

Invertebrates are animals without a backbone. More than 90% of all animals on earth are invertebrates. This includes **mollusks** (whelks, conchs, octopuses, clams, oysters), worms, and **arthropods** (insects, crustaceans, spiders), among others.

cartilage fish	bony fish	mollusk	arthropod
			

Food for Thought

What are some of the things you do when you hide during a game of hide and seek? You might hide in or behind something—animals do, too.

Imagine if you could change your skin color to blend into your surroundings. In fact, if you look at an Army camouflage outfit, that's what soldiers do with their clothes!

To what color would you change your skin to hide in or around . . .

water

sand

snow

mud

grass

rocks

leaves

trees



The author is donating a portion of her royalties to the National Marine Sanctuary Foundation.
"Each footprint may be small, but together they create a trail for others to follow. Our seas are home to some of the earth's most valuable treasures, an abundance of plant and animal life that we are just beginning to learn about and understand. Once lost, these treasures may disappear forever. Education is the first step to preserving and protecting this ecosystem, and providing future generations with a priceless legacy."—JEK

To my dad, Randall Evans, who taught me to read; to my husband, Andrew, who taught me to believe; to my children, Mitchell, Patrick, Jessica & Jeffrey, who taught me to dream; and to my son's teacher, Mrs. Debbie Kelley, who inspired both me and my son to learn about one of earth's most precious resources, its oceans.—JEK

To Mom and Dad who always allowed me to swim into the depths.—GRP

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