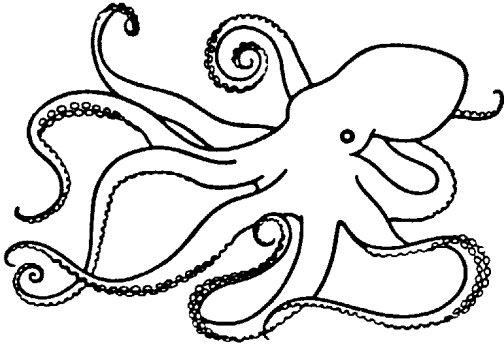


**Source:** *The Ocean Book: Consider the Connections ...* Center for Marine Conservation, Washington, D.C. and New England Aquarium. Reprinted with permission.

## 33. IMPORTANCE OF COLOR

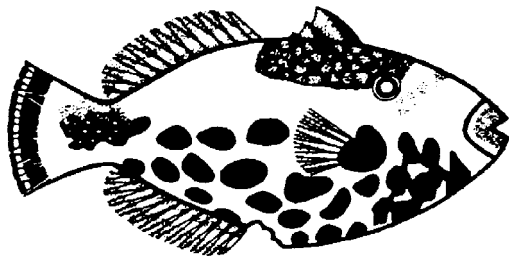
Coloration may help hide an animal or draw attention to its role in a coral reef community.



### **Camouflage**

Camouflage coloration helps animals blend in with their surroundings. The octopus changes color instantly from black to gray to red to match its background. It can also change the texture of its skin, becoming bumpy or smooth to blend in with rocks and seaweeds.

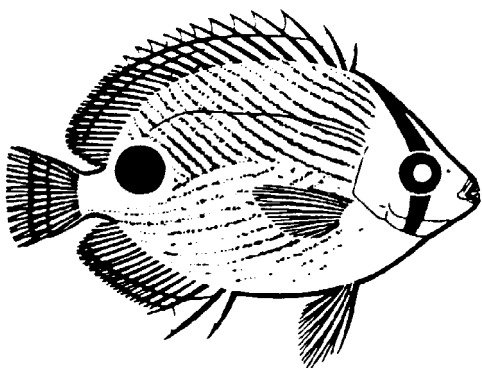
↩ *octopus*



### **Disruptive Coloration**

Spots and stripes break up the body shape of some fishes and conceal them against their backgrounds. This kind of camouflage, called disruptive coloration, is common in coral reef fishes.

↩ *clown triggerfish*



### **False Eye Spots**

Unusual color patterns may hide vulnerable parts of an animal's body. The true eyes of a four-eye butterflyfish are hidden in a band of black, but near the tail are two prominent "false eyes." A confused predator may attack these instead of the real eyes, allowing the butterflyfish to escape in the opposite direction.

↩ *four-eye butterfly*

### **Countershading**

Many open ocean animals have dark backs and light bellies. This protective coloration is called countershading. Viewed from above, dark backs blend with the darkness of the deep ocean. From below, it is difficult for predators to see light bellies against bright sunlit surface waters.

↩ *barracuda*



### Advertising Coloration

Some animals have coloration that attracts attention and advertises a special service. Cleaner fishes help other fishes by removing harmful parasites from their skin. Predators recognize the bright color patterns of cleaners and do not harm them because of the useful service they perform.

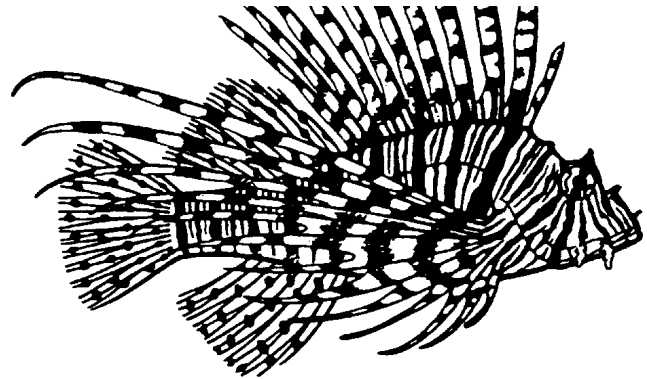
cleaner wrasse →



### Warning

Some animals are so well protected with spines, poisons, and armor that their coloration is a warning for other species to stay away. The lionfish has brightly striped fins with poisonous spines that it displays to would-be attackers.

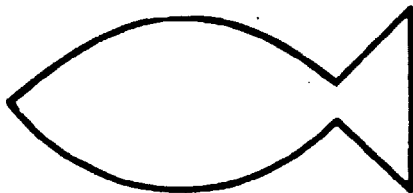
lion fish →



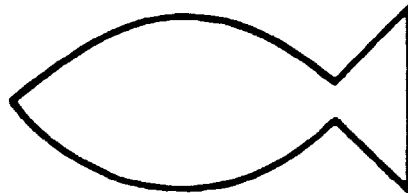
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## WORKSHEET: COLORATION

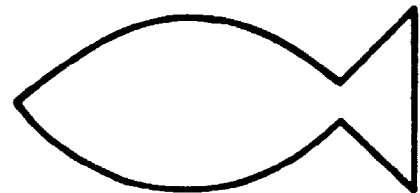
1. **Protective Coloration** helps animals survive in their natural habitats. Protect the fish below by giving them the proper coloration:



**Countershading**



**Disruptive Coloration**



**False Eye Spots**

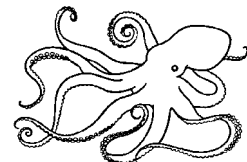
2. What is **Advertising Coloration** and how does it help an animal survive?



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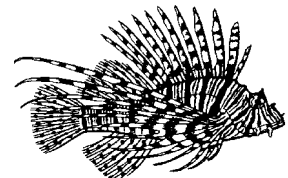
3. What is **Camouflage** and how does it help an animal survive?



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4. What is **Warning Coloration** and how does it help an animal survive?



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**Correlation to National Standards from McREL ( <http://www.mcrel.org> ) :**

Life Sciences

5. Understands the structure and function of cells and organisms