

EDUCATION ADVENTURES

**Kelly
Tarlton's**
**ANTARCTIC
ENCOUNTER
UNDERWATER
WORLD**

Camouflage and Counter-Shading Fish and Marine Animals Protecting Themselves

The What and the Why of Camouflage

- What does the dictionary tell students that camouflage is? Can they list any synonyms for camouflage? How is it different from disguise?
- Can students think of any times that they or family members have tried to blend in with their surroundings? How successful was it? Share experiences.
- Introduce the idea that in the animal world, most animals either have to pursue their food or try and evade other animals that pursue them for food. What examples can they give of this 'kill or be killed' natural order? In what ways do they think that camouflage could help? Can students think of other ways apart from camouflage that animals use to protect themselves from other predators? eg spines, poisons, very fast movement...
- How do they think that camouflage could also help the hunter, as well as the hunted? Point out that when humans hunted with bows and arrows, they had to camouflage themselves to get close to their prey. Can students come up with suggestions of how they could have camouflaged themselves?
- Introduce the concept of a food chain. What is it? Can students come up with a simple food chain in nature? What does 'Google' say it is? How do students think that camouflage could help maintain food chains?

Camouflage in the Marine Environment

- Introduce the word 'Crypsis' as the scientific word that means blending into or being very like the background so as not to be seen. What do they think would be the best way to blend in (take on the colour) with their surroundings? Do the students know that our marine environment is just crammed full of extraordinary examples of camouflage? What examples can they come up with? How do they think that fish and sea creatures such as flounder, sea horses, stingrays and an octopus could camouflage themselves? Do they think that brightly coloured tropical fish would be easy or harder for a predator to see? Why or why not?
- Have groups of students conduct online research on marine camouflage at:
<http://marinebio.org/gallery/video/MastersofCamouflage.asp>
<http://www.ms-starship.com/sciencenew/camouflage.htm>
- Have students report back on their findings. What did they consider to be the most extraordinary camouflage techniques? Can they explain why body shape camouflage can be very effective? What reasons can they find for fish that live in very deep water to often be coloured red?
- Introduce the idea that even penguins with their two main colours of black and white are well camouflaged. Find out who are the predators of penguins. How could their colours (counter-shading) help protect them?
- Discuss the possible consequences for a species or part of a species of marine animals if their efforts at camouflage did not work well.

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