

Convergent Evolution: Dolphins VS Sharks

How do analogous structures evolve?

You have probably noticed that dolphins and sharks both have a streamlined body shape with a triangular fin on the back and two side fins. However, the two animals also have many differences.

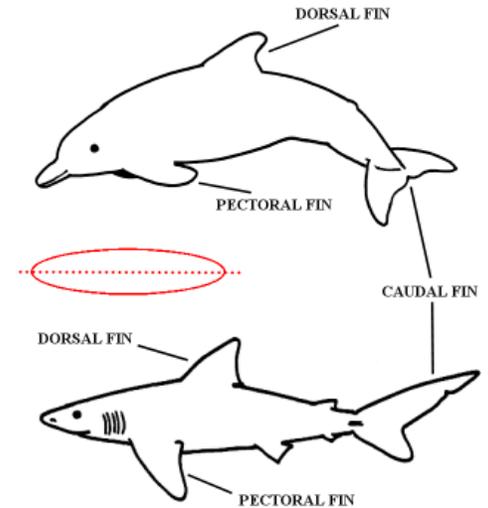
Sharks



Dolphins

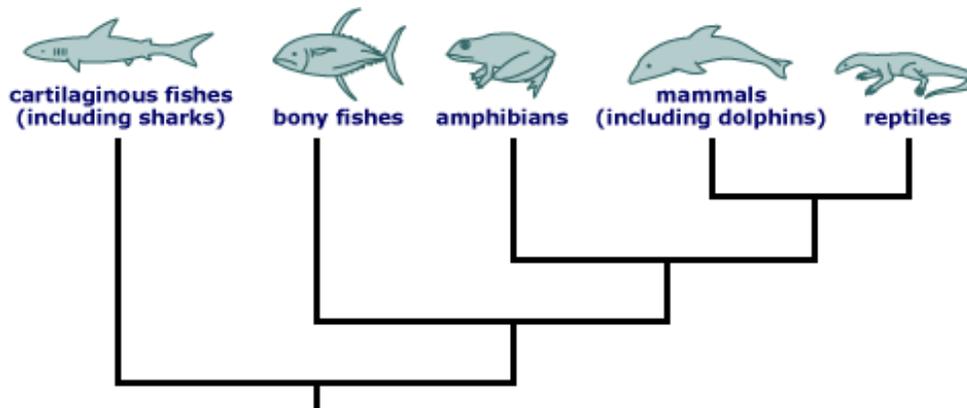


skeleton made of cartilage	skeleton made of bone
use gills to get oxygen from the water in which they swim	go to the surface and breathe atmospheric air in through their blowholes
don't nurse their young	do nurse their young
don't have hair	do have hair — they are born with hair around their "noses"



They may share the same basic shape, but underneath their skins, sharks and dolphins are very different!

The following tree shows the relationship between various groups, including cartilaginous fishes (sharks) and mammals (dolphins). They are not very closely related to one another. So how did they end up looking so much alike?



What's the advantage?

If two species face a similar problem, challenge or opportunity, evolution may end up shaping them both in similar ways. Both dolphins and sharks swim after prey in the ocean. Streamlined bodies and fins provide a big advantage for them, allowing them to swim faster. We know that dolphins and sharks are not closely related, and they didn't inherit their similar body shapes from a common ancestor. Their streamlined bodies, dorsal fins and flippers are the result of convergent evolution. Since dolphins and sharks occupy similar niches and face similar challenges, similar adaptations have been advantageous to them, resulting in their analogous structures.

