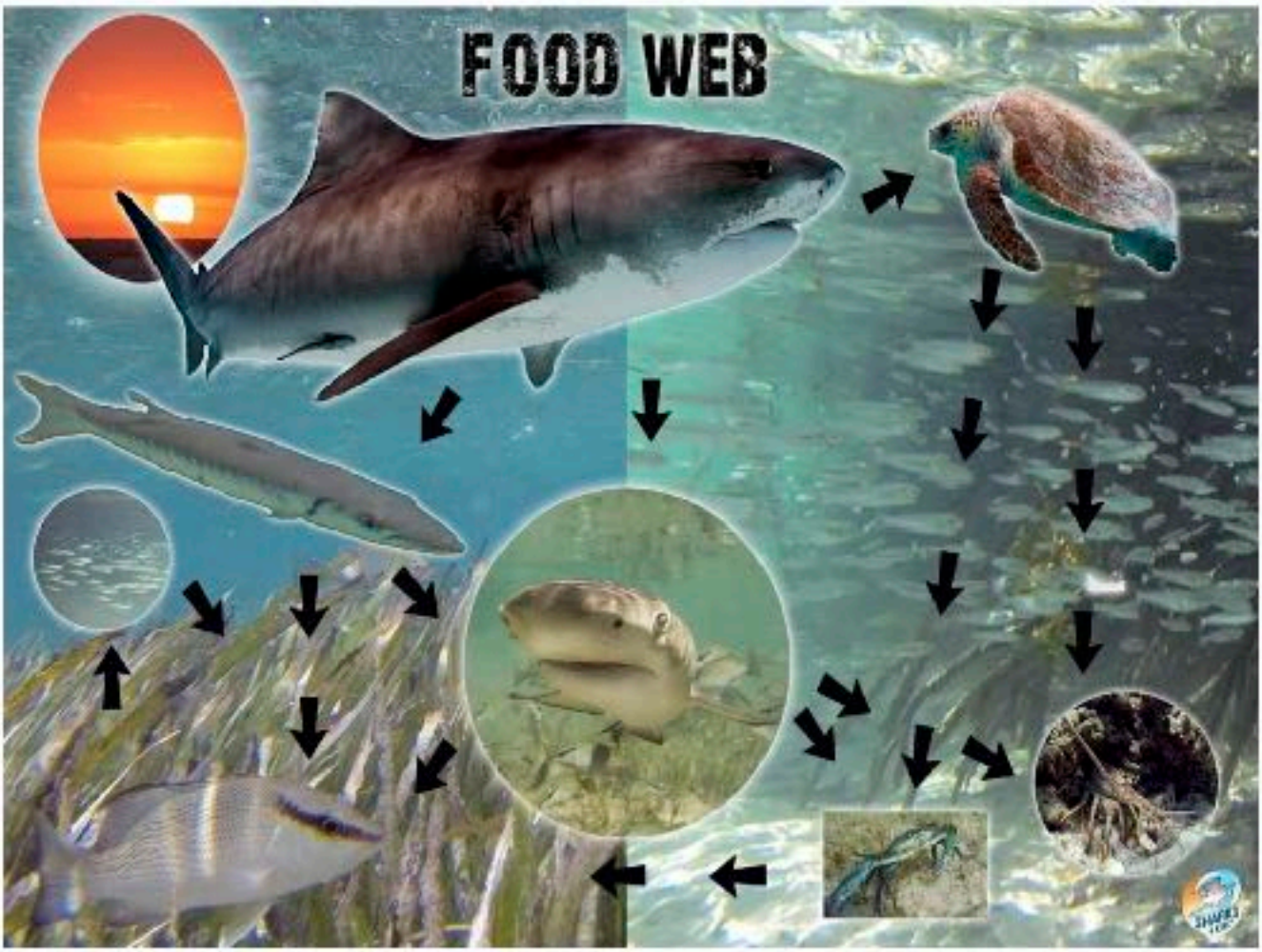
Sharks4Kids

Tilly's Food Chain

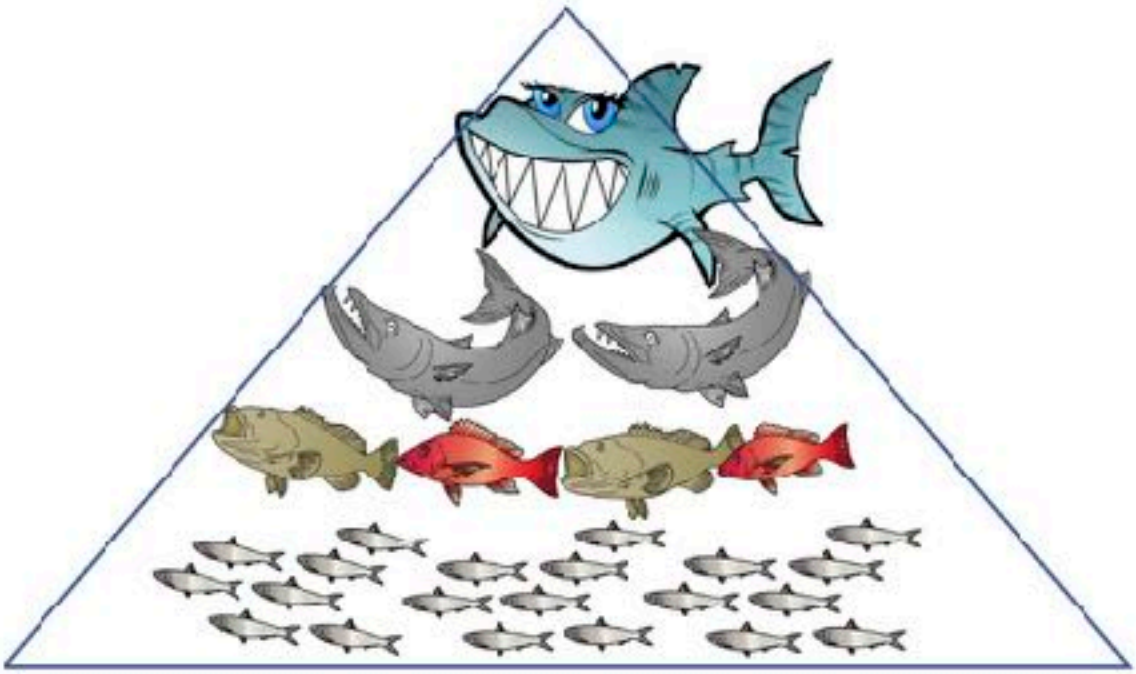
Grade 2-3 Craft

Introduction: A food chain describes what animals eat. A food web connects the food chains together and allows scientists to understand how animals are connected. They can become complex and twisted because a single animal can eat more than one thing or multiple animals may feed on one the same thing.



Food chains are often shown in triangles. Larger animals are at the top of the triangle and less abundant. Smaller animals are usually shown lower in the triangle and are more abundant. For example, a tiger shark may have 10-80 pups at a time, a barracuda will release (spawn) 500,000 eggs at a time, and smaller fish such as the anchovy will spawn multiple times in a season releasing thousands of eggs each time. When animals that are naturally more plentiful (animals lower in the food chain) are removed

from the ocean, there is less of an impact than if that same number of top predators were removed. For example, removing 80 anchovies is not as impactful to the food web as removing 80 tiger sharks because anchovies are far more abundant and reproduce faster.



Tiger sharks are apex predators and play an important role in keeping the oceans balanced but this concept is often misunderstood since sharks are known to eat fish. It is generally assumed that if we remove sharks from the oceans then we will have more fish. However, food webs are not that simple. When top predators, like sharks, are removed from the food web, there is a domino effect. This craft will explore that concept using Tilly the tiger shark.

Tiger sharks are known as the "garbage cans of the sea" since they are often brave enough to try anything- including garbage! Naturally they prey on large fish, turtles, and even the occasional bird. In this activity, we will assume that Tilly's favorite food is barracuda. Barracudas lurk along reefs feeding on smaller fish such as baby groupers, anchovies, snapper, and parrotfish (these are also things we like to eat). These smaller fish rely on the coral reef. The parrotfish keep algae off the reef and most fish like to hide in the reef for protection. If Tilly is removed from the reef, the barracuda population will increase and they will feast on the smaller fish. This can cause several issues. One issue is that the price of seafood can increase as it becomes less abundant. Another issue is that algae may cover the reef when there are fewer parrotfish to keep it clean. This may also affect other animals that live within the reef. A dirty reef can also affect people. An unhealthy reef is not a pretty place for tourists and the community may lose thousands to millions of dollars in ecotourism. Understanding food webs is an extremely important topic for scientists, fishermen, citizens, and government officials when making laws and regulations.

Time: 40 minutes

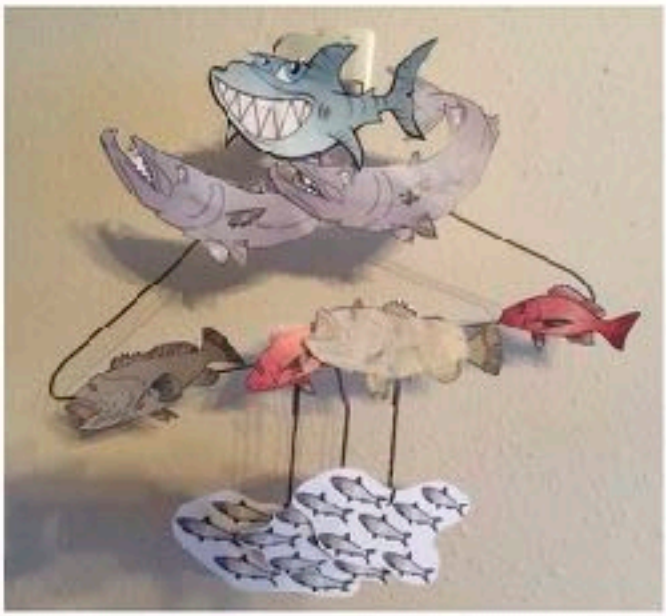
Materials:

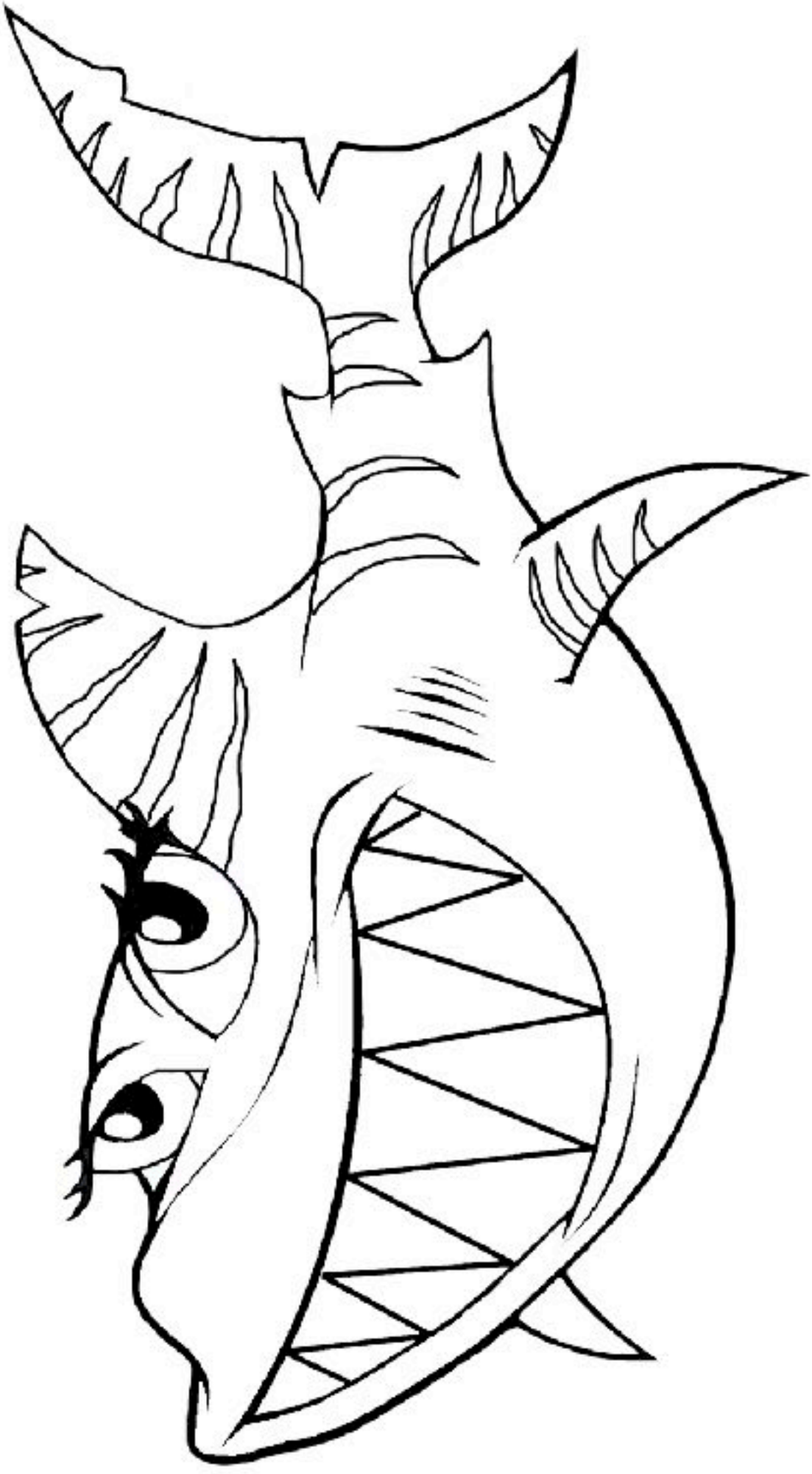
- Corresponding coloring sheets
- A wire hanger
- Strirg/yarn
- Tape

Procedure:

1. Color and cut out Tilly, two barracuda and reef fish.
2. Using yarn, attach the characters to the hanger so they can slide up and down and around the hanger. Tape Tilly just below the hook of the hanger, the barracudas to the sides of the hanger and the baby grouper and snapper to the bottom.
3. Punch a small hole on the top of each set of anchovies to hang with string from the bottom of the hanger.
4. This is Tilly's full Food web!

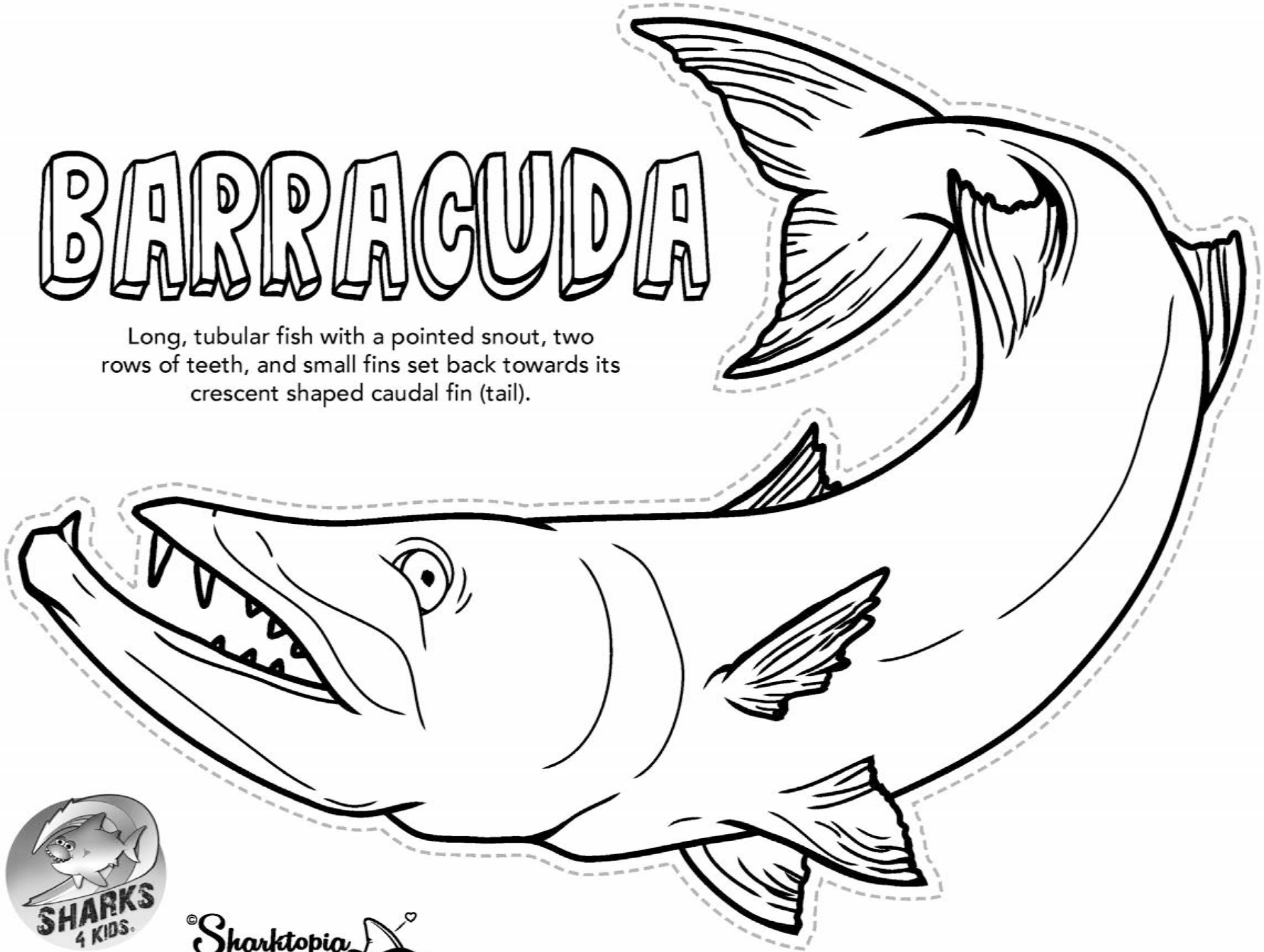
Discussion: If we turn Tilly around, as if she is not a part of the food chain, the barracudas will move down and feast on the baby grouper and snapper. The anchovies will no longer have any predators and will multiply. Below is Tilly's food web before and after she is removed.





BARRACUDA

Long, tubular fish with a pointed snout, two rows of teeth, and small fins set back towards its crescent shaped caudal fin (tail).



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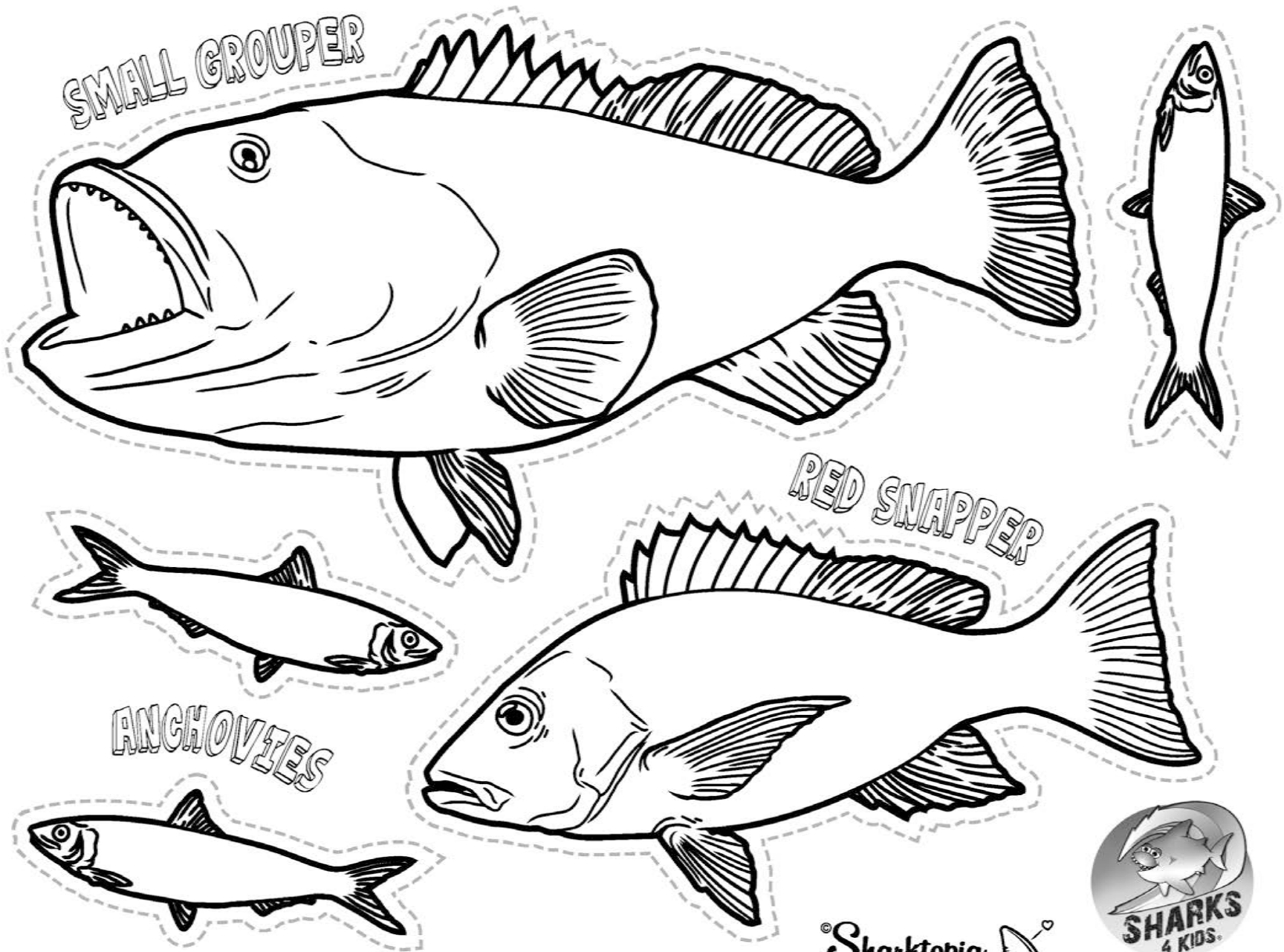
SMALL GROUPER
RED SNAPPER
ANCHOVIES
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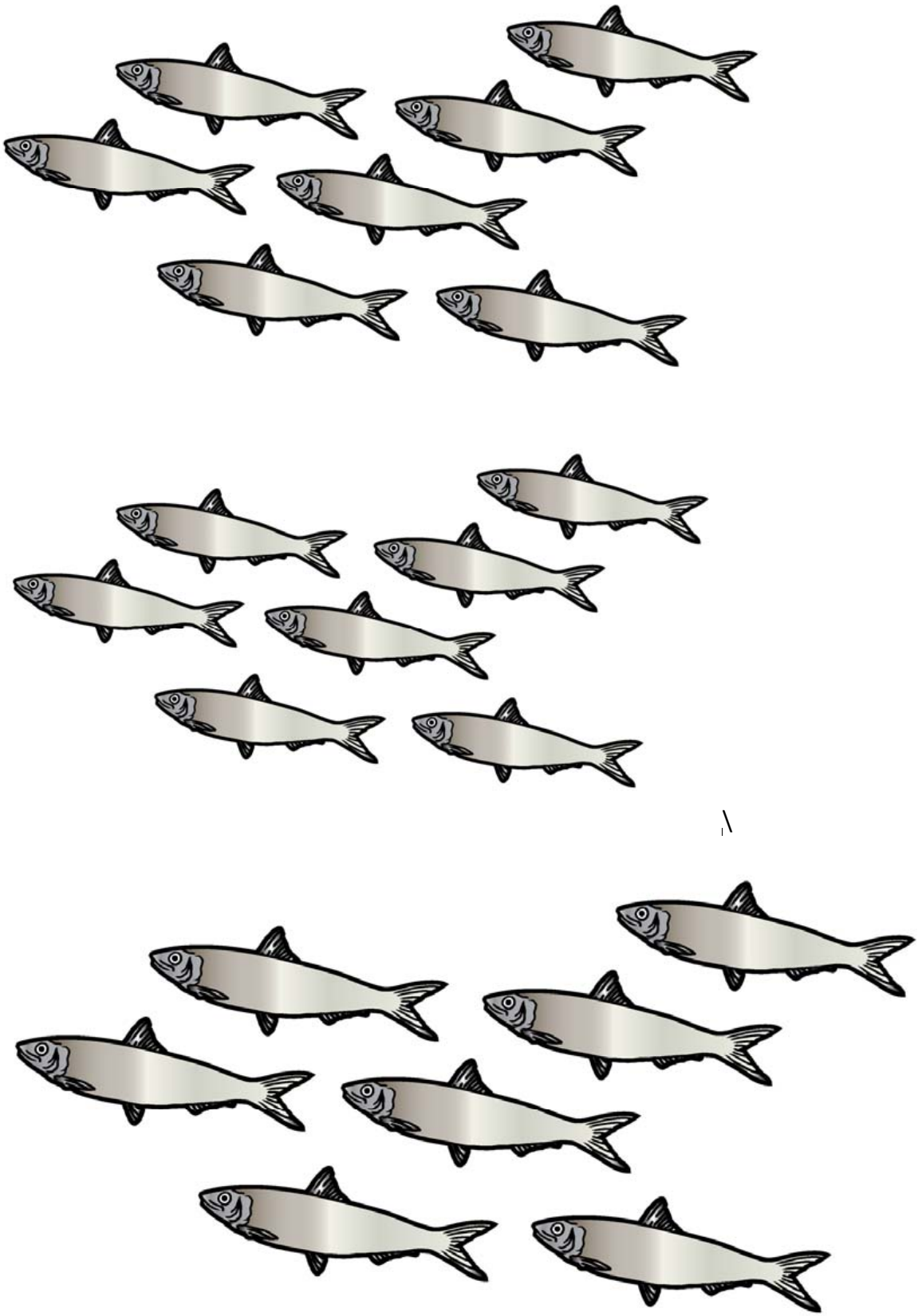

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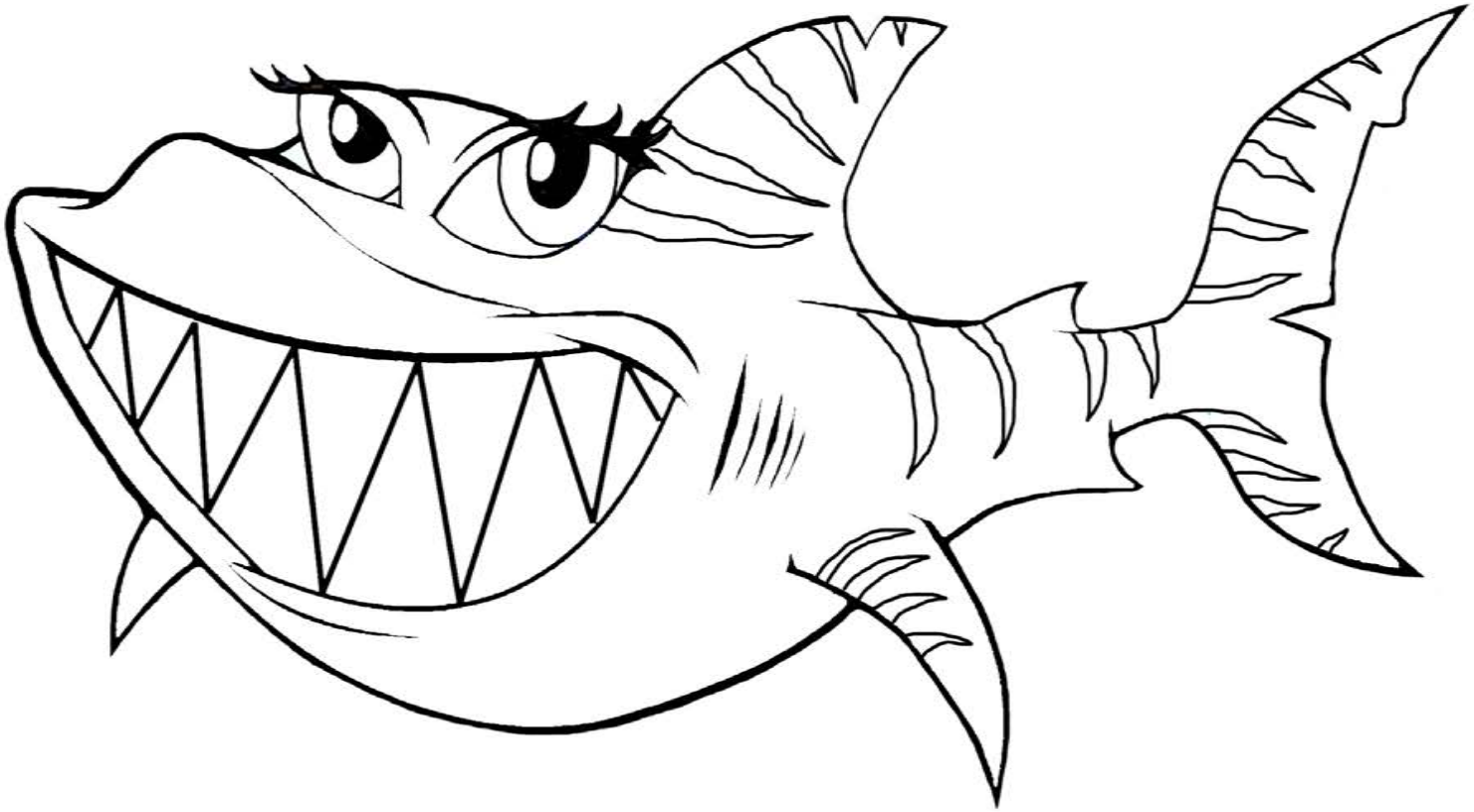
Tilly the Tiger Shark



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