



Sandpaper Shark

Have you ever wondered how a shark's scales feel? Sharks have specialized scales called *dermal denticles* that help them swim more efficiently and quietly through the water. But they sure aren't soft!

Make your own shark and learn about how this adaptation helps sharks be successful in their ocean habitat.

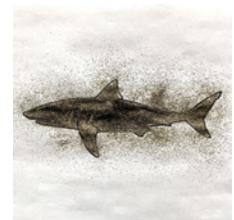
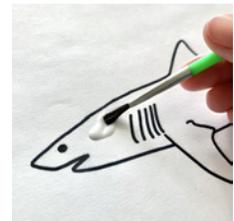
Materials

Shark template (page 3)
Sand
Paper
Glue

Scissors
Wooden craft stick (optional)
Magnet (optional)

Directions

1. **Learn** more about dermal denticles on page 2.
2. **Collect** a small amount of craft sand or sand from a natural environment near you. *Please note: If collecting from nature, be careful not to disturb live plants and animals, take only what you need, and make sure to follow the rules of the natural environment you are visiting.*
3. **Print out** the shark template on page 3 or draw your own shark on a piece of paper.
4. **Apply** glue to the inside of your shark outline using a brush, cotton swab, or your finger.
5. **Add** sand on top of your shark. Make sure to cover all of the glue.
6. **Shake off** any excess sand outside or over a bucket or sink and let your shark dry.
7. **Cut out** your shark.
8. *Optional:* **Glue** the back of your shark to a wooden stick or magnet.

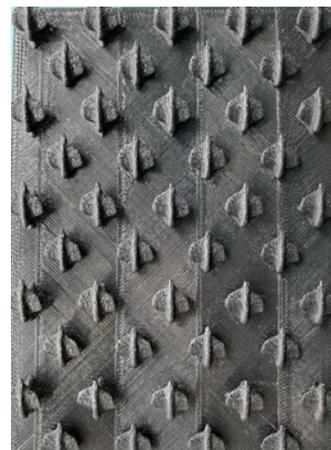




Leopard shark dermal denticles

Dermal denticles

Sharks have specialized scales called *placoid scales* or *dermal denticles*. Dermal denticles are shaped like teeth. When touched in a backwards motion from tail to head, the scales feel rough, like sandpaper. This adaptation helps sharks while swimming, allowing them to swim faster and more quietly. Dermal denticles can also prevent a shark from being easily scratched by a rough surface or another animal, and make it difficult for parasites to stick to their skin.





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