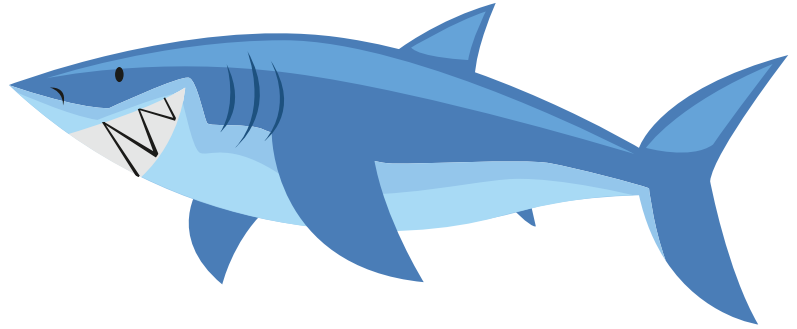


Shark Skin Simulation

July 14th is Shark Awareness Day! Celebrate these amazing creatures by learning what a shark's skin is made of.

Collect

- 2 sheets of cardstock
- Pencil
- Wax crayons with the papers removed
- 1 piece of coarse 40-60 grit sandpaper, about the same size as the cardstock
- Iron
- Scissors
- Newspaper (optional)



Draw a shark

1. Use a pencil to draw a large shark on one sheet of cardstock. Make sure that the drawing takes up most of the paper.
2. Use the crayons to color the entire rough side of a piece of sandpaper. Make sure to press hard so the wax transfers to the sandpaper.

Hint: The easiest way to do this is by holding the crayon flat against the paper so you are coloring with the whole crayon rather than just the tip, similar to how you would make a leaf rubbing.

Add the skin!

3. Place the cardstock shark on a flat, heat-proof surface. Lay the sandpaper on top of the shark, with the crayon side facing down.
- Hint: If you don't want to get wax on your working surface, lay down a few sheets of newspaper first.*
4. Place the second piece of cardstock on top of the sandpaper. This will create a buffer for your iron.
5. Place a warm iron on top of the stack for about 60 seconds. Remove the top sheet of cardstock and sandpaper, and then let the wax dry for about 1 minute.
6. Use scissors to cut around the shark.

What's happening?

Try rubbing your hand back and forth against the paper shark. What does it feel like? The heat of the iron should have transferred lots of little wax bumps to your paper shark. Even though a shark's skin looks smooth, it's actually covered in very tiny scales called dermal denticles. On a real shark, the scales all point in one direction; towards the tail. This means if you were to run your hand across a real shark skin, it would feel smooth one way and rough the other, just like your paper shark!

Scientists believe the dermal denticles help reduce drag as the shark swims through the water. As water flows over the skin it hits each little bump and creates a little swirl of suction that helps propel the shark forward. Some scientists also think that they help keep the shark cleaner because the rough texture prevents other animals, like barnacles and algae, from attaching to the shark.

