
Snake Scale.

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DR2007 Surface Design



THE EVOLUTION OF SNAKES

Snakes are believed to have diverged from lizards as early as the Jurassic Period. A key event in the evolution of snakes was losing their front and hind limbs. There are several theories as to why the snakes lost their limbs such as evolving to swim or burrowing in the dirt. However, the reason remains a mystery.

FUNCTION OF SNAKE SCALES

Scales are armour for the snakes, it offers protection against natural elements, predators, etc. Made out of keratin. It allows them to move over rough or hot surfaces. The scales on their bellies grab onto the surface of the floor creating friction to propel the snake forward. The scales also help the snakes with water retention especially for those living in the desert. It prevents the evaporation of water through the skin. Colours are used as camouflage while bright colours warn of their deadly nature.

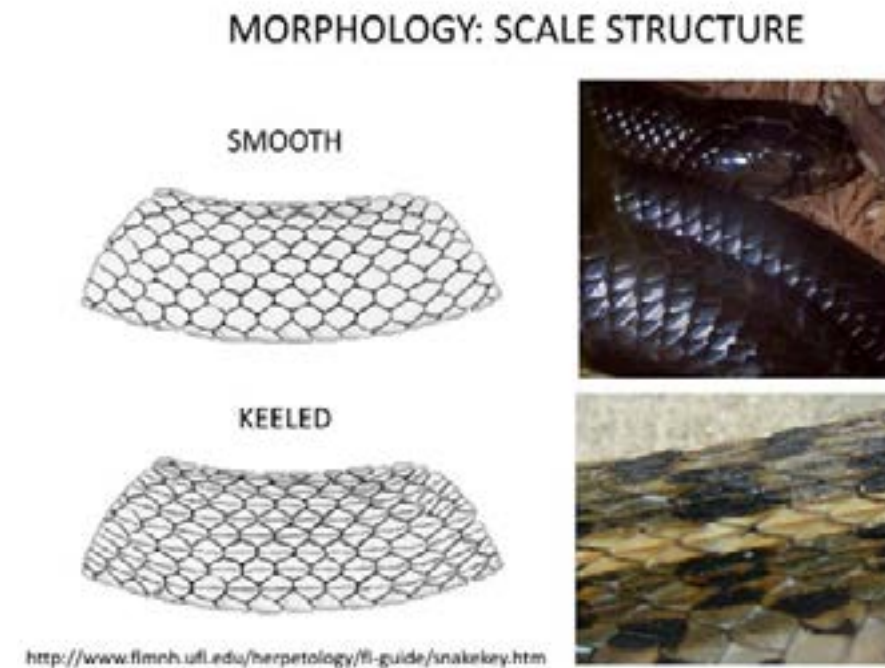
An example of a snake that makes use of bright colour (red, yellow, black) to warn others of their venomous nature is the coral snake. However, the milk snake mimics the colour of the coral snake to fend off predators, but they aren't venomous. To differentiate these snakes, remember this simple rhyme. "If red touches yellow, it will kill a fellow. If red touches black, it's a friend of Jack."

SCALE STRUCTURE

There are three main structure of snake scales. Do note that snakes don't make up of just one scale structure, most snakes make use of a mixture of structure.

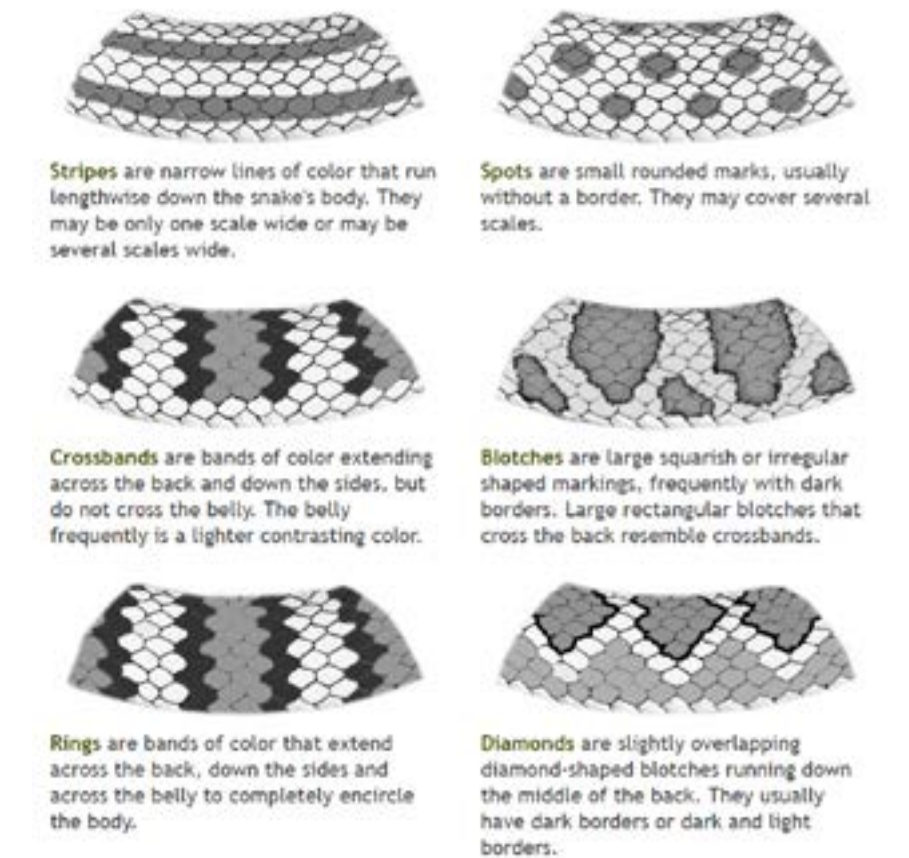
- 1) Smooth Scales (e.g. glossy snake)
- 2) Keeled Scales (e.g. gopher snake)
- 3) Granular Scales (e.g. elephant trunk snake)

Here is a diagram to show the difference between smooth and keeled scales.



SCALE PATTERNS

The below diagram shows the different patterns that can be found on snakes.



01 Research.

02 Moodboard.



03 Samples.

Sample #01

//needle felting



Using a mixture of some wool that I have, I needle felted the blotch patterns of a snake.

This weren't my ideal colours, especially the base, but I tried working with whatever I have.

Sample #02

// water soluble



Initially, I was planning on creating snakes on a hat for my final outcome, but I don't have enough materials for that.

But here is my experimentation on using water soluble material to create a slithering effect.

Sample #03

// Smocking



While experimenting with smocking, I noticed that several smocking patterns looks a little like scales, thus I tried to mimic the snake scales on this smocking.

(Failed badly at a more difficult smocking pattern)

03 (Not-so) Samples.

Sample #04

// applique



Using the material I have from Wearable Tech, I created a simple applique in a stacked scale structure with an iridescent scale.

Sample #05

// knitting



Experimented with different types of knit to create a scale texture knit, however, it got too tedious. So here is just a simple knit.

Sample #06

// bleaching



Using rubber bands to clump some areas around the cloth together, and bleaching the rest of the cloth to make it look like the blotches of a snake.



04 Application.

05 Final Product.



Technique: Water Soluble Material

Product: Bracelet

Using water soluble material with different types of threads, yarns and spare cloths to create a bracelet. Some remnants of the water soluble material were purposely kept as it reminded me of snake shed.