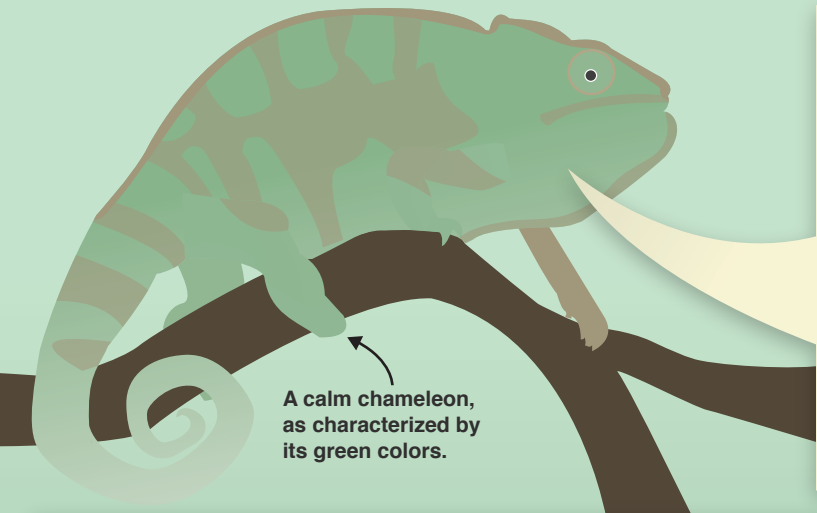


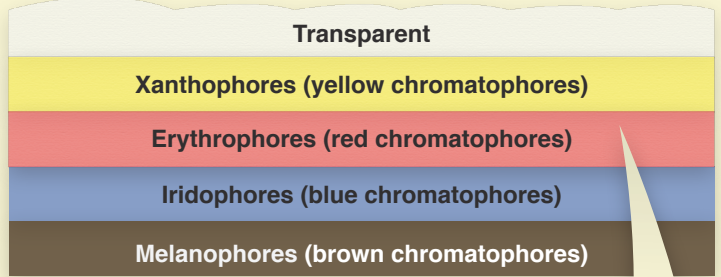
HOW CHAMELEONS CHANGE COLOR



A calm chameleon, as characterized by its green colors.

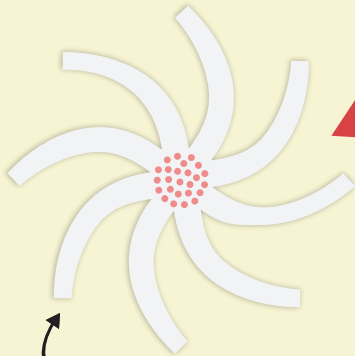
Five Layers of Skin

A chameleon's skin has five layers, the top-most being transparent. Working downward, the bottom-four layers can produce yellow, red, blue, and brown hues respectively thanks to special cells called "chromatophores".



Chromatophores

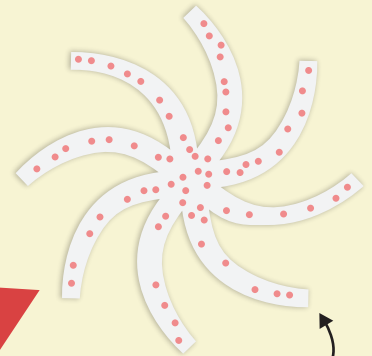
Chromatophores are special pigment-containing cells that can be divided into the four types seen above, each of which contains only their corresponding color. Chromatophores function by collecting pigment into one spot to lessen their color intensity, and dispersing it to increase it.



A chromatophore with contained pigment.

Hormones

Hormones in the chameleon's blood regulate chromatophores. Contact with hormone-laden blood will cause a chromatophore to either collect or disperse pigment.



A chromatophore with dispersed pigment

Did you know?

It is a common misconception that all chameleons change color to blend in with their environments. While some chameleons do in fact do this, the fact that their chromatophores react to hormones essentially means that chameleons change color to reflect their mood. Factors that would affect a chameleon's mood include:



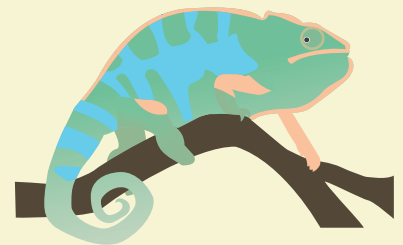
Temperature

Chameleons have been known to change to a darker color when cold, to help absorb warmth from sunlight.



Territoriality

When territorial, chameleons have been known to turn aggressive shades to appear intimidating.



Mating

Male chameleons have been known to adopt elaborate color schemes to attract mates.