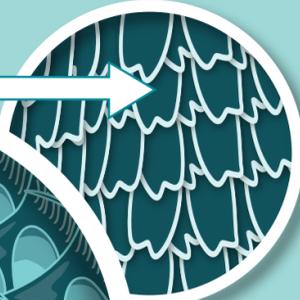
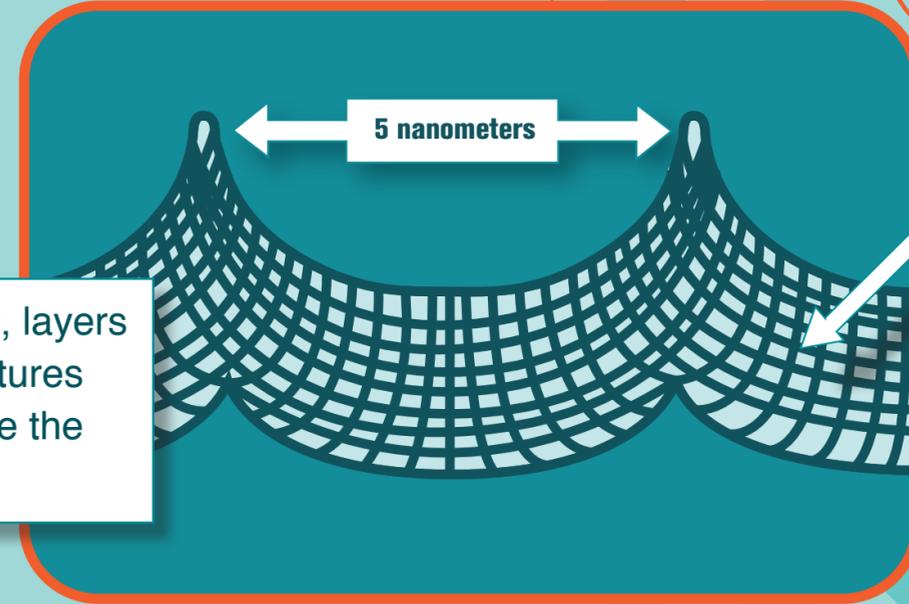


Move the lights—do the butterflies change color?

Butterfly scales overlap like tiles on a roof.



Instead of pigment, layers of nanoscale structures on the wings create the iridescent colors.

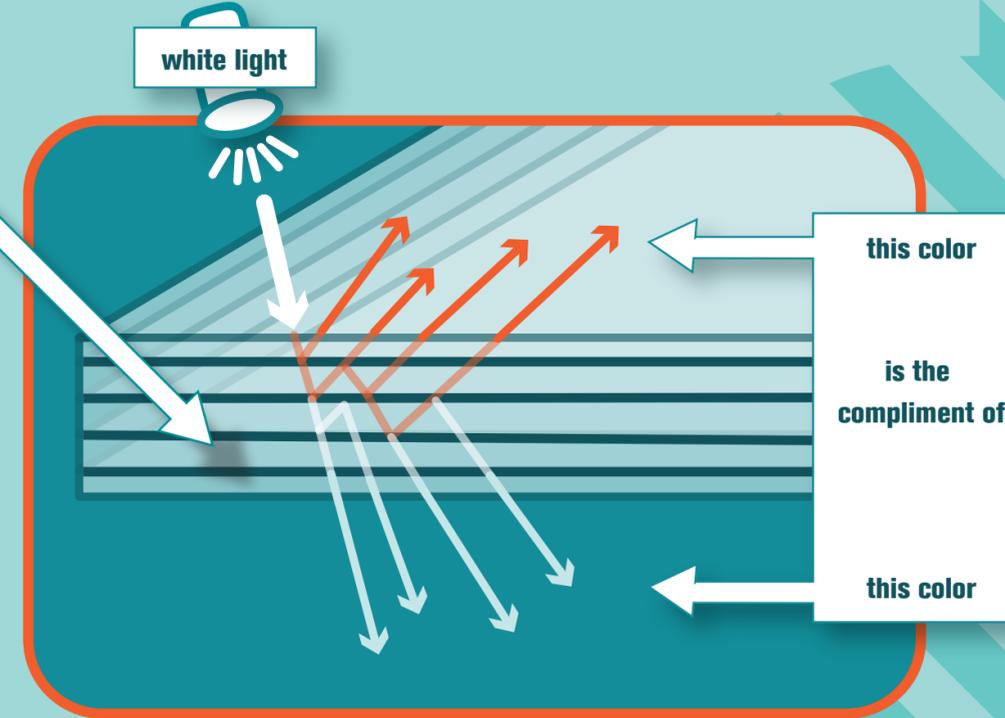


5 nanometers

The super-thin transparent layers cancel out some wavelengths of light and reflect and intensify others, just like the plastic films to your right. When you change the angle at which light strikes the surface, the color changes, too. (This effect is called *iridescence*.)

Each of these films is actually a stack of many super-thin transparent layers. The thickness and composition of each layer determine which wavelengths of light get reflected and which colors you see.

Push the button—do the slides change colors?



white light

this color

is the
compliment of

this color