

How Soap Forms & Why It Works

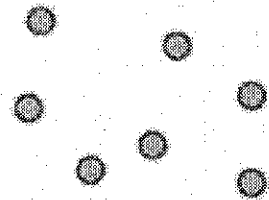
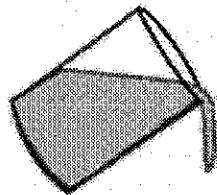
Source: <https://sustainablescientist.net/>,

2008/04/17/how-soap-works/

Oil & water don't mix, right?

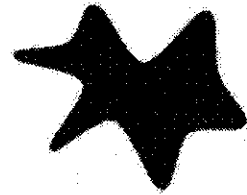
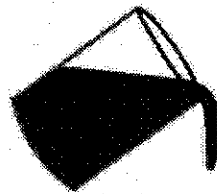


Polar molecules
(like salt or alcohol)
dissolve in water,
spreading out
evenly.



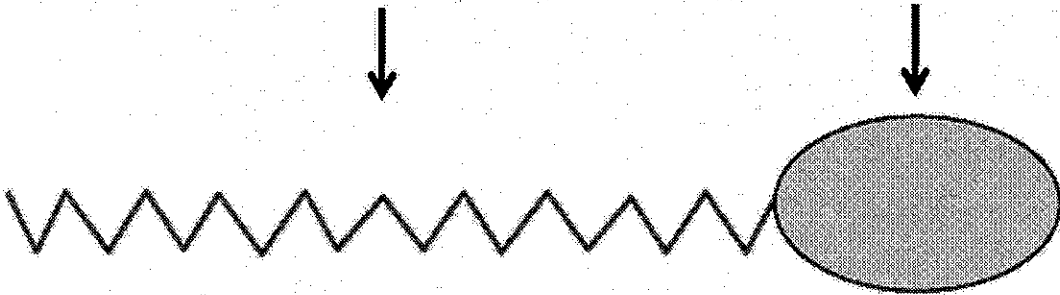
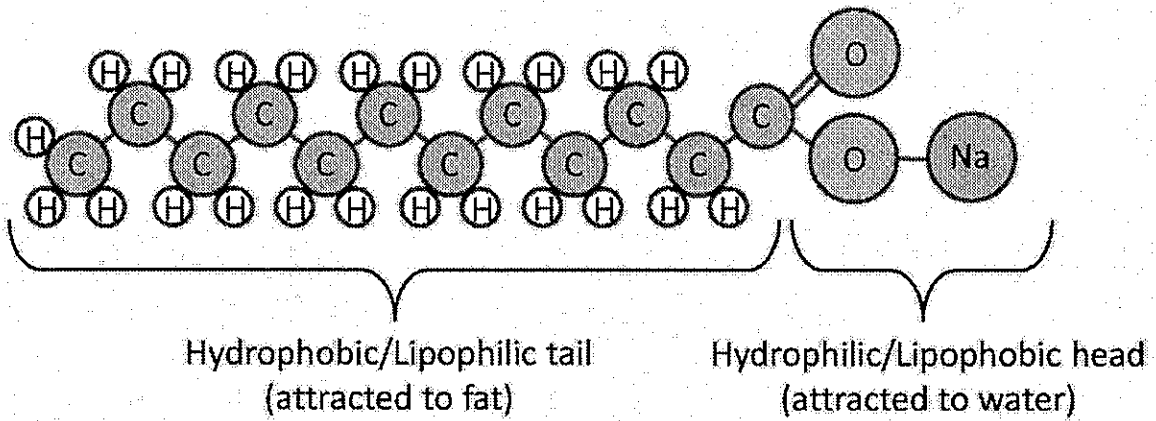
Dissolved

Grease is made of
nonpolar molecules
that lump together
in water, which is
why it is difficult to
'wash off' oils



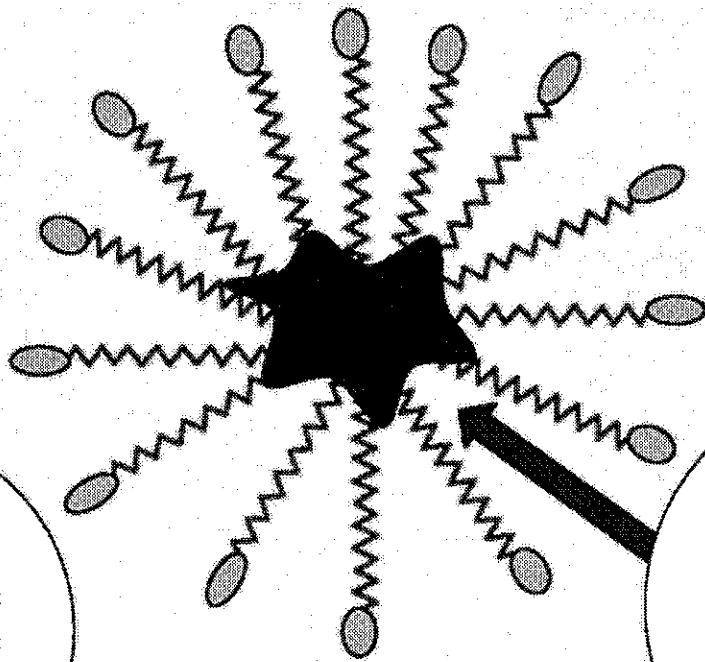
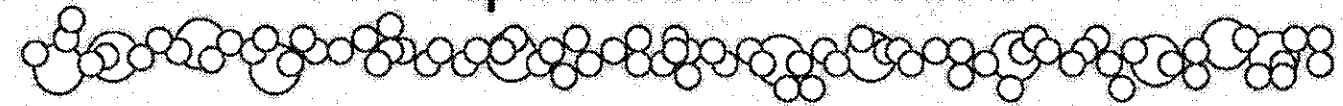
Clumped

The soap molecule has a head and a tail



[Hydro = water; Lipo = fat; phobic = afraid; philic = loving]

A Soap Micelle at Work



The hydrophilic heads of soap molecules on the outside allow the micelle to be suspended in the water

The grease molecules are secured by the lipophilic tails of the soap molecules crowding in the center of the micelle, away from the water