glycerol	an alcohol, also called glycerine, which is a colourless, viscous liquid with a sweet taste; its fatty-acid esters constitute natural fats and oils, from which glycerol is obtained as a by-product of soap making; glycerol is a triol (an alkane with three -OH groups)
hydrophilic	a substance that has a high affinity for water; easily dissolves in water
hydrophobic	a substance that has a low affinity for water; does not easily dissolve in water and may repel it
Le Chatelier's principle	if a system is at equilibrium and it is disturbed by changing some conditions, then the system will adjust itself so as to minimise this disturbance
micelle	a cluster of molecules; the long hydrocarbon chains of natural soaps are insoluble in water; they cluster together, attracted to each other by dispersion forces

naptha	a volatile mixture of liquid hydrocarbons used as a solvent and obtained by distilling coal tar or shale oil or from refining and cracking petroleum; it has a boiling range of 80 to 180 degrees Celsius
nitrocellulose (cellulose nitrate)	a mixture of highly inflammable nitrate esters of cellulose, made by nitrating cotton or wood pulp; it is used in making celluloid
oleum	also known as fuming sulfuric acid; it is 100% sulfuric acid containing dissolves SO3
plastic	a material that can be molded into desires shapes
reversible reaction	a reaction where the forward and reverse reactions occur at the same time

saponification	the reaction between an ester and hydroxide ion to form an alcohol and carboxylate ion; it is the hydrolysis of an ester under alkaline conditions; it refers to the alkaline hydrolysis of fats and oils, converting them into soap
shellac	a brown flaky resin secreted by the lac insect; naturally thermoplastic, it is used with fillers to make molded articles and as an ingredient in paints, lacquers and polishers
smelting	a process of extracting a metal from its ore by heating the ore in a blast furnace; sulfide ores are generally roasted to convert them to oxides before smelting
Solvay process	a process for the manufacture of sodium carbonate; salt, ammonia, carbon dioxide and water react to give precipitated sodium bicarbonate (sodium hydrogen carbonate), which on heating gives sodium carbonate and carbon dioxide for recycling
surfactant	a material able to act on another substance, changing its surface tension; the fatty acid ion in soap lowers the surface tension of water by disrupting hydrogen bonds between water molecules

tallow	a substance obtained by melting the harder and less fusible kinds of animal fat; it is used for making candles and soap, and for greasing machinery
trona	a grey or yellowish-white glassy or translucent crystalline material which tastes alkaline and is soluble in water; it effervesces with acids and produces water on heating in a closed tube
vulcanisation	the process of enhancing the durability of rubber by heating it with sulfur or sulfur compounds; vulcanisation involves the creation of sulfur bridges between the long-chain rubber polymer molecules