# Coronavirus – answers

***Education in Chemistry***March 2020  
[rsc.li/39Qtnxi](https://rsc.li/39Qtnxi)

**1)**

* Hydrogen bonding
* London forces / temporary dipole-induced dipole
* Permanent dipole-dipole forces
* Ionic interactions

**2)** Amino acids with non-polar side groups such as alanine will lead to the formation of London forces.

**3)** The higher the reproduction number, the faster and bigger the spread of the disease, as each case will cause more new cases.

**4)** Sodium hydroxide

**5)**

* The long alkyl chain is non-polar (sometimes called hydrophobic).
* The carboxylate ion is polar (sometimes called hydrophilic).

**6)** The long non-polar hydrocarbon chain is hydrophobic and forms attractions to the grease. The soap molecules surround a droplet of grease with the hydrophobic ends pointing towards the grease and the hydrophilic ends towards the water. The droplet is then washed away. Something similar happens with a virus, but it is likely the soap molecules also disrupt the outer membrane of the virus.

**7)**



**8)** The alcohol will not remove the dirt and will only kill the exposed virus on the surface of the dirt. The virus could still be present inside the dirt.