

Properties and uses of metals:

Transition metals-

Transition metals are:

- Good conductors of heat and electricity
- Can be bent or hammered into different shapes

Titanium & Aluminium:

-Low density (Light weight)

-Resistant to corrosion

Aluminium is used a lot to make plane bodies and power lines

Titanium is used to make hip joints

Copper:

-Conducts heat and electricity very well

-Doesn't react with water

-Can be bent into other shapes easily

Crude oil:

Fractional Distillation-

Crude oil is a mixture of various compounds. This means that it can be easily separated into individual compounds.

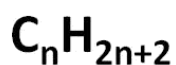
<u>Short Hydrocarbons</u>	<u>Long Hydrocarbons</u>
High Flammability	Low flammability
Low viscosity	High Viscosity
Low Boiling Point	High Boiling Point
Small Molecule Size	Large Molecule Size

Alkanes-

Alkanes have only single bonds.

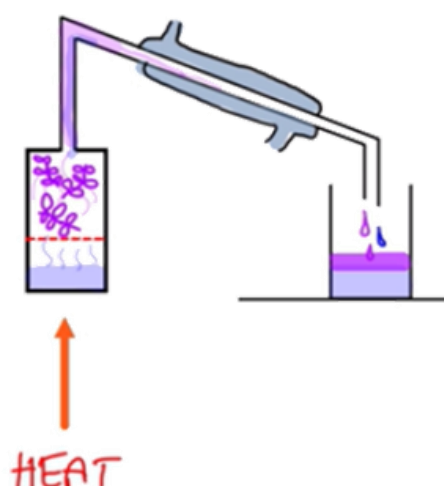
Alkanes are saturated.

The general formula for alkanes is:



<u>List of Alkanes</u>	
Methane	C=1 , H=4
Ethane	C=2 , H=6
Propane	C=3 , H=8
Butane	C=4 , H=10
Pentane	C=5 , H=12
Hexane	C=6 , H=14
Heptane	C=7 , H=16
Octane	C=8 , H=18
Nonane	C=9 , H=20
Decane	C=10 , H=22

Plant oils



The diagram above shows how to extract lavender oil from lavender plants.

- 1 – The water is heated up and evaporates
- 2 – The water vapour passes the plants and evaporates the lavender oil
- 3 – A cooling water jacket cools down the vapours down, this causes the vapours to condense
- 4 – The water and oil collect, then a filtering method is used to separate the oil and water.

Method of making olive oil:

- 1 – The olives are crushed to create a pulp
- 2 – The crushed olives are put through filters and squashed using very high pressure
- 3 – Some of the remaining bits of olives are mixed with a solvent which dissolves it
- 4 – The solvent is usually removed through a form of distillation

Uses of oils from plants

- Cooking (Due to lots of energy, Vitamin E and nutrients and higher boiling point than water)
- Cosmetics (Mainly fragrances)
- Biofuels