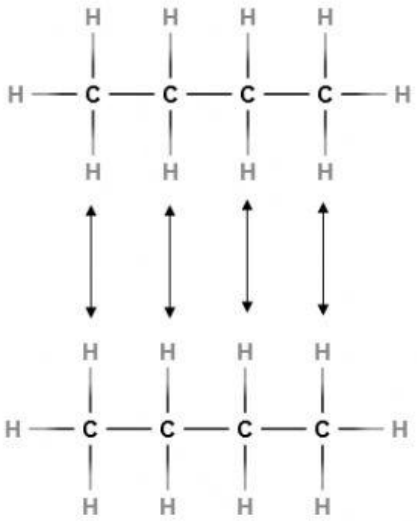
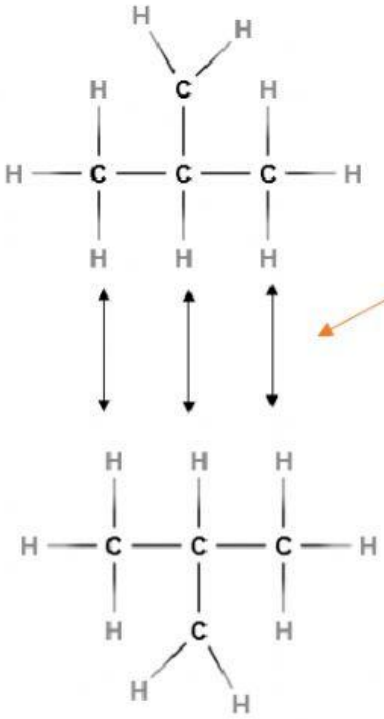
Straight vs Branced chains





The max no of carbons that can attract the next chain is 3. The surface area over which the intermolecular forces act are smaller.

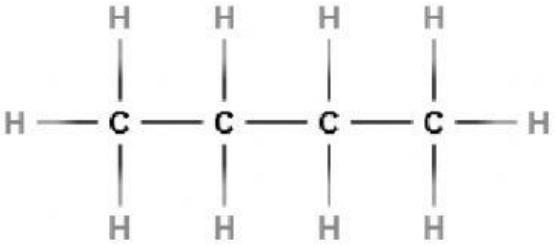
And thus IMF are weaker

The straight chains have

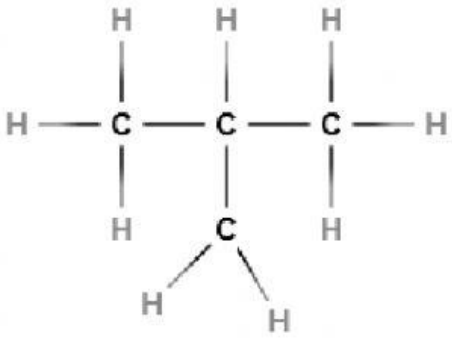
- ✓ stronger the IMF (Van der Waals, London)
- ✓ since it has a larger surface area (over which the IMF can act)

Example 1

A



B



LIVEWORKSHEETS

1.1) Which molecule has the lowest melting point?

- B
- Since it has the smallest surface area
- Thus the weaker intermolecular forces (Van der Waals, London)
- Thus requires the least energy to weaken the intermolecular forces

1.2) Which molecule has the lowest viscosity?

- B
- Since it has the smallest surface area
- Thus the weaker intermolecular forces (Van der Waals, London)
- Thus it has the lowest resistance to flow

1.3) Which molecule has the highest volatility?

- B
- Since it has the smallest surface area
- Thus the weaker intermolecular forces (Van der Waals, London)
- Thus it is most likely to be a vapour.

Question 2

A	Pentane
B	2-methylbutane
C	2,2-dimethylpropane

Only write the letter of the correct option

2.1) Which molecule has the highest melting point?

2.2) Which molecule has the lowest viscosity?

2.3) Which molecule has the highest volatility?

LIVEWORKSHEETS