Year 8 Numeracy Task on Fractional Distillation

1. The table shows some different alcohols that have different boiling points. Sadly, the person who drew the table wasn't very smart and he didn't put them in the correct order. Use the right hand table to put the names and boiling points in the correct order, *lowest to highest*.

Name of alcohol	Boiling Point (ºC)
Pentanol	138
Ethanol	78
Methanol	65
Butanol	117
Propanol	97

Number of carbon atoms	**Name of alcohol**	**Boiling Point (ºC)**

2. The boiling point increases when the amount of carbon atoms increases.

How many carbon atoms do you think **pent**anol has?

Why do you think this?

Given this information, add in the number of carbon atoms for the other alcohols.

3. Your final task is to draw a suitable graph to show this data in the best way possible. You will be given some advice how to set up the scale, but the more help you need, the lower the level you are awarded.

   Extension. Hexanol has 6 carbon atoms in its chain. Use the graph to estimate its boiling point.