Worksheet 3

Name Class Date

**1** A crude oil fraction contains hydrocarbons which have properties in common.   
Complete the table by placing a tick (✓) or cross (🗶) in each column.

You need to decide if the property shown is exactly the same throughout all the hydrocarbons in the fraction or just similar.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Boiling point | Ease of  ignition | Number of  carbon atoms | Viscosity |
| Exactly the same throughout the fraction |  |  |  |  |
| Similar throughout the fraction |  |  |  |  |

**2** Crude oil **fractions** have different uses.

**a** Complete the table by writing the missing names and uses of each fraction into the correct boxes.

|  |  |
| --- | --- |
| Name of fraction | Use of fraction |
|  | domestic heating and cooking |
| gasoline (petrol) |  |
| kerosene |  |
|  | fuel for some trains |
|  | fuel for some power stations |
|  | surfacing roads and roofs |

**b** State one other use for the fraction used for:

**i** fuel for some trains

**ii** fuel for some power stations.

**3** During the **fractional distillation** of crude oil, gasoline (petrol) vapours **condense** higher up the **fractionating column** than kerosene vapours do.

**a** Describe the change of state that happens during condensation.

**b** State and explain which fraction (petrol or kerosene):

**i** has the lower boiling point

**ii** contains the smaller hydrocarbon molecules

**iii ignites** more easily

**iv** has the higher **viscosity**.

**Optional Challenge question**

**4** Gasoline and fuel oil are different fractions that can be separated from crude oil. Describe the difference in one physical property between these two fractions.