Worksheet 1

Name Class Date

|  |
| --- |
| Your teacher may watch to see if you can:   * observe, record, and evaluate results. |

Aim

You are going to watch a demonstration of how crude oil can be separated into **fractions** using **fractional distillation**. Real crude oil contains some toxic substances banned in schools, so an artificial substitute is used instead.

Recording results

Record the results in the table below.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Fraction number | Temperature collected (approx.) | Colour | Viscosity (1–4) | Ease of ignition (1–4) |
| 1 (collected first) | under 100 °C |  |  |  |
| 2 | 100–150 °C |  |  |  |
| 3 | 150–200 °C |  |  |  |
| 4 (collected last) | 200–250 °C |  |  |  |

Considering the results

**1** The first fraction collected should have the lowest boiling point and the last fraction should have the highest boiling point.

**a** Describe how the viscosity of the fractions varies with their boiling point.

**b** Describe how the ease of ignition of the fractions varies with their boiling point.

**c** Describe how the colour of the fractions varies with their boiling point.

Evaluation

**1** If the demonstrator encountered problems carrying out this investigation:

**a** describe the most significant difficulty they had

**b** suggest one improvement to the apparatus or method to reduce the problem described in part **a**.