

Bridging Work Year 10 September 2020

Chemistry

The tasks below are designed to support you as you prepare to start GCSE *Chemistry*.

These tasks have been developed to build on your knowledge and help with the transition to IKB Academy in September, using your time wisely over the coming months to ensure you maintain a level of education that will be needed to be successful in your subjects.

Investigation into the Viscosity of Oils

1. Research task: What is crude oil? Describe how the fractions of crude oil can be separated using fractional distillation. Make a list of the fractions found in crude oil with their properties including boiling point, viscosity and flammability.
2. Investigation: Which is the most viscous oil? An equipment list and brief method for this experiment are below. You need to work out the details!

Equipment

- Any smooth piece of plastic or porcelain (eg large dinner plate, chopping board)
- A few different types of oil. These could be food oils such as olive oil or sunflower oil or bike lubricating oil but for safety reasons nothing easily flammable.

Method

- Lean your plate/chopping board at an angle (about 45 degrees)
- Put a drop of oil at the top of the plate
- Time how long it takes for the oil to run down the plate.
- Repeat with a different oil.

You need to:

- a) Decide how you will gather valid results (THINK: what are your control variables, how many times will you repeat each oil)
- b) Design a results table.
- c) Carry out your experiment
- d) Produce a graph to show your results.
- e) Write a conclusion to summarise your findings.

Extension: Write an evaluation for your experiment. How could you improve your method in future?

For some background information on crude oil and fractional distillation click here:

<https://www.bbc.co.uk/bitesize/guides/zshvw6f/revision/3>