

### Lesson\_Plan\_3

<b>Subject:</b>	Chemistry
<b>Level:</b>	Sec 4
<b>Topic:</b>	Fuels
<b>Learning Outcome(s):</b>	<p>a) name natural gas, mainly methane, and petroleum as sources of energy</p> <p>b) describe petroleum as a mixture of hydrocarbons and its separation into useful fractions by fractional distillation</p> <p>c) name the following fractions and state their uses</p> <ol style="list-style-type: none"> <li>i) petrol (gasoline) as a fuel in cars</li> <li>ii) naphtha as feedstock for the chemical industry</li> <li>iii) paraffin (kerosene) as a fuel for heating and cooking and for aircraft engines</li> <li>iv) diesel as a fuel for diesel engines</li> <li>v) lubricating oils as lubricants and as a sources of polishes and waxes</li> <li>vi) bitumen for making road surfaces</li> </ol> <p>d) state that the naphtha fraction from crude oil is the main source</p> <p>e) describe the issues relating to the competing uses of oil as an energy source and as a chemical feedstock</p>
<b>Students' Pre-requisites</b>	N.A.
<b>Total Duration of Lesson:</b>	60 min[no presence of teacher, home learning] Pedagogy : R2D2
<b>ICT tools used:</b>	<p>Google site: <a href="https://sites.google.com/site/fuelcrude/">https://sites.google.com/site/fuelcrude/</a></p> <p>Voki: <a href="http://www.voki.com/">http://www.voki.com/</a></p> <p>Quiz: <a href="http://www.thatquiz.org">www.thatquiz.org</a></p> <p>Wordle: <a href="http://www.wordle.net/">http://www.wordle.net/</a></p> <p>Garfield &amp; Friends :<a href="http://www.dan-dare.org/FreeFun/Games/CartoonsMoviesTV/Garfield.htm">http://www.dan-dare.org/FreeFun/Games/CartoonsMoviesTV/Garfield.htm</a></p> <p>Domo : <a href="http://domo.goanimate.com/">http://domo.goanimate.com/</a></p> <p>ToonDoo : <a href="http://www.toondoo.com/">http://www.toondoo.com/</a></p> <p>Pixton : <a href="http://www.pixton.com/uk/">http://www.pixton.com/uk/</a></p>

Instructions given to students are on the home page of the site.

Topic	Duration	Work
Home & Learning Objectives	5 min	<b>READ</b> : instructions clearly before you proceed
Know-How of Crude oil extraction	10 min	<b>READ</b> : ppt
Quiz	8 min 30 s	<b>DO</b> : your participation will be taken as your attendance of the day. Take note that the quiz has a time limit!
To use or Not to use	20 min	<b>READ</b> : watch videos <b>REFLECT</b> : post comments
U got a part to play!	-	<b>DISPLAY</b> : comic strips