



# مدرسة القديسة مريم الكاثوليكية الثانوية – دبي

## ST. MARY'S CATHOLIC HIGH SCHOOL, DUBAI

### Lesson Plan

<b>Subject</b>	Science
<b>Class/ Section</b>	Year 8
<b>Week</b>	Week-5: 26 <sup>th</sup> September to 30 <sup>th</sup> September
<b>Work send to students by</b>	Google classroom
<b>Total No. of lessons per week</b>	4
<b>Unit/Topic</b>	8E Combustion
<b>Key Vocabulary</b>	Independent variable, dependent variable, controlled variable, fair test, valid data
<b><u>Specific Learning objectives</u></b> <b><u>Specific Intended Learning Outcomes</u></b>	<p><b>Lesson 1 - (8Ec) Fair testing</b></p> <ul style="list-style-type: none"> <li>To know why are fair tests carried out?</li> <li>Identify independent, dependent and control variables in a given experiment.</li> <li>Plan ways in which to control simple control variables.</li> <li>Explain the need for a fair test in order to generate valid data.</li> <li>Justify the choice of control variables.</li> </ul>
<b>Tasks</b>	<ol style="list-style-type: none"> <li>Review the concepts of different variables in an investigation. (From Chemical reactions part 3- types of reactions-Oxidation- Use slide 12 for Bell jar experiment animation in <i>DOODLE BOARDWORKS</i>)</li> <li>Explain the importance of controlling some variables.</li> <li>Discuss a plan for investigating the time a candle burns when placed at different levels from surface</li> <li>Students write a plan for the investigation of burning candle</li> <li>Answer the questions on pg on 76-77 in the note book.</li> </ol>
<b>Assessment Criteria/ Essential questions</b>	<p><b>Support-</b> Through Q1-3 pg.76 of the text book the children identify the dependent , independent and controlled variables in two different experiments</p> <p><b>Stretch-</b> Through Q4-6 pg.77 of the text book the children identify &amp;explain dependent , independent and controlled variables in the candle experiment.</p> <p><b>Extend-</b> Write the steps of the experiment of candle burning including justification for choosing dependent , independent and controlled variables and reach a conclusion.</p>
<b>Resources</b>	Text Book-Exploring Science International 8 <i>DOODLE BOARDWORKS</i>

<b>Key Vocabulary</b>	Exothermic reactions, thermometer, hazard symbols, fire triangle, fire extinguisher, foam
<u><b>Specific Learning objectives</b></u>  <u><b>Specific Intended Learning Outcomes</b></u>	<b>Lesson 2 - (8Ec) Fire Safety</b>  To know how to stop a combustion reaction. <ul style="list-style-type: none"> <li>• Define an exothermic reaction and give examples.</li> <li>• Use the fire triangle to explain how to control a fire.</li> <li>• Identify hazard symbols for substances likely to cause fires.</li> <li>• Explain why different types of fire need to be put out in different ways.</li> <li>• Describe how to stay safe in familiar situations</li> </ul>
<b>Tasks</b>	<ol style="list-style-type: none"> <li>1. Review the fire triangle and the factors required for combustion and recall the hazard signs related to burning and explain the meaning of each hazard sign.</li> <li>2. Explain what exothermic and endothermic reactions are using suitable examples. Ask to identify if the physical changes like melting, freezing etc are exothermic or endothermic to reinforce the concept.</li> <li>3. Discuss various ways of putting out fire including principle behind each method. Ask them to describe the Fire Drill process in the school and its importance.</li> <li>4. Students identify and draw hazard signs of flammable, oxidizing and explosion in the note book</li> <li>5. Students suggest the various ways of putting out fire they have observed in their building, in their homes and at school.</li> </ol>
<b>Assessment Criteria/ Essential questions</b>	<p><b>Support-</b> Through Q1-4 pg.74 of the text book the children identify, draw and describe the hazard symbols associated with burning and state the things required for making fire.</p> <p><b>Stretch-</b> Through Q5 pg.75 of the text book the children explain which side of the fire triangle is taken away if the fire is put out by blowing on the flame, water &amp; fire blanket,</p> <p><b>Extend-</b> Through Q6-8 pg.75 of the text book the children explain why water is not used to put out chip pan fire and electrical fires.</p>
<b>Resources</b>	Text Book-Exploring Science International 8 Video on putting out oil fire. <a href="https://www.youtube.com/watch?v=dPr-tOZHmOA">https://www.youtube.com/watch?v=dPr-tOZHmOA</a>

<b>Key Vocabulary</b>	Pollutants, soot, nitrogen oxide, asthma, exhaust gases, catalytic converter
<b><u>Specific Learning objectives</u></b> <b><u>Specific Intended Learning Outcomes</u></b>	<p><b>Lesson 3 - (8Ed) Air Pollution</b></p> <ul style="list-style-type: none"> <li>To know how burning fuels cause pollution.</li> <li>Define complete and incomplete combustion.</li> <li>Describe pollutant that are formed by burning fuels</li> <li>Explain how these pollutants cause problems and how their effects can be reduced.</li> </ul>
<b>Tasks</b>	<ol style="list-style-type: none"> <li>Teacher uses the AT presentation <i>Complete and incomplete combustion</i> to show how complete and incomplete combustion of carbon are different.</li> <li>Uses AT presentation oxidation (last two slides) to explain how burning fossil fuels pollute the atmosphere and what happens if the products formed oxides of sulphur and nitrogen dissolve in rain water (use AT animation and video )</li> <li>Uses AT presentation <i>Catalytic converters</i> which gives students the opportunity to examine the role of catalytic converters in cars. 4. Students write a plan for the investigation of burning candle</li> <li>Students identify the conditions when incomplete combustion takes place and predict the products formed. From Chemical reactions part 3- types of reactions-Oxidation- Use slide 17 &amp;18 for complete &amp; incomplete combustion in <i>DOODLE BOARDWORKS</i>)</li> <li>Students analyze the effects of acid rain on soil and living organisms.</li> </ol>
<b>Assessment Criteria/ Essential questions</b>	<p><b>Support-</b> Through Question 1, 3 &amp; 5 on pg.78 of the text book the children identify the pollutants in burning of fuels in different situation.</p> <p><b>Stretch-</b> Through Question 2,4&amp; 6 on pg.78 of the text book the children identify and explain the formation of oxides of nitrogen and cause of Asthma</p> <p><b>Extend-</b> Through Question 7 &amp; 8 on pg.79 of the text book the children explain the cause &amp; effects of acid rain and how to reduce the chances of acid rain.</p>
<b>Resources</b>	<p>Text Book-Exploring Science International 8</p> <p>AT presentation <i>Complete and incomplete combustion</i></p> <p>AT presentation oxidation</p> <p>AT video on effects of acid rain</p> <p><i>DOODLE BOARDWORKS</i></p>

<b>Key Vocabulary</b>	Green house effect, global warming, climate change
<b><u>Specific Learning objectives</u></b> <b><u>Specific Intended Learning Outcomes</u></b>	<p><b>Lesson 4 - (8Ee) Global warming</b></p> <ul style="list-style-type: none"> <li>To know if the pollution is causing the climate change?</li> <li>Recall some effects of global warming, climate change.</li> <li>Explain how human activity affects the levels of carbon dioxide in the atmosphere.</li> <li>State the meaning of the greenhouse effect.</li> <li>Explain how carbon dioxide helps to cause the greenhouse effect.</li> <li>Explain how methods of controlling the levels of carbon dioxide work.</li> </ul>

<b>Tasks</b>	<ol style="list-style-type: none"> <li>1. Teacher uses the <b>AT</b> presentation <i>Mechanism for the greenhouse effect</i> which asks students to examine the mechanism for the greenhouse effect.</li> <li>2. Teacher encourages them to analyse the graph C on page 80 T. Bk and asks to predict the reason for this shape of the graph.</li> <li>3. Discuss and ask them to suggest some effects of global warming.</li> <li>4. Students predict the reason of global warming and discuss in groups and share their ideas about the effects of Global warming and suggest the ways to overcome this.</li> <li>5. Students analyze shape of the graph on pg.80.</li> <li>6. From Chemical reactions part 3- types of reactions-Oxidation- Use slide 19, quiz in <i>DOODLE BOARDWORKS</i> as plenary)</li> </ol>
<b>Assessment Criteria/ Essential questions</b>	<p><b>Support-</b> Through Question 1-3 on pg.80 of the text book the children state what Green House Effect is and identify the cause of green house effect.</p> <p><b>Stretch-</b> Through Question 4-7 on pg.80 of the text book the children analyze the shape of the graph and suggest the reason of increase in green house effect.</p> <p><b>Extend-</b> Through Question 8-10 on pg.81 of the text book the children explain the cause &amp; effects of global warming and how to reduce the chances of global warming.</p>
<b>Resources</b>	<p>Text Book-Exploring Science International 8</p> <p><b>AT</b> presentation <i>Mechanism for the greenhouse effect</i></p> <p><b>AT</b> presentation Warming Earth</p> <p><i>DOODLE BOARDWORKS</i></p>