

## True Light Middle School of Hong Kong

### Lesson Plan of the LAC Unit

Subject: Integrated Science

Class: S2

Teacher: Lam Tsz Wai

Objectives of the lesson:

- Students can identify forces in daily life activities.
- They are able to state and explain the effects of a force on an object.
- They are able to defining & differentiate contact force and non-contact force.

Duration	Procedure followed	Resources
8 min	<p><b>Setting the context</b></p> <p>To prepare the lesson, students do the Worksheet part A</p> <p>Lesson Starter:</p> <p>T: What is a force?</p> <p>T: Can you give some more daily examples of applying force?</p> <p><b>Modeling &amp; Deconstruction and Guided Construction</b></p> <p>Teacher guides students select which activities shown in the PowerPoint slide involve a force.</p> <p>T: Where can you find a force?</p>	9.1 PowerPoint slides & Worksheet
2 min  20 min	<p><b>Setting the context</b></p> <p>Teacher points out the objectives of this lesson:</p> <ul style="list-style-type: none"> <li>• A force is a push or pull or any action that has the ability to cause an object to undergo a certain change.</li> <li>• The kinds of changes (effects) will be investigated in this lesson.</li> </ul> <p>Learning &amp; teaching Activity : (Involve <b>Language</b> learning element)</p> <p><b>Guided &amp; independent Construction</b></p> <p>To indicate there are forces everywhere, students</p> <ul style="list-style-type: none"> <li>• rewrite the sentences from Everyday English to Academic English in Science</li> </ul> <p style="padding-left: 40px;">E.g. Jane kicks the football.</p> <p style="padding-left: 40px;">Jane applies a force to the football.</p> <p>New vocabulary related to 'force': apply to, exert on, act on</p> <p><b>Guided &amp; independent Construction</b></p> <p>To explain the cause of the changes is due to the forces that is applied to the object, students</p> <ul style="list-style-type: none"> <li>• rewrite the sentences from active voice to passive voice</li> </ul>	9.1 PowerPoint slides & Worksheet

	<p>e.g. Jane applies a force to the football. A force is applied to the football by Jane.</p> <ul style="list-style-type: none"> <li>change the passive voice sentences to noun clauses</li> </ul> <p>E.g. A force that is applied to a stationary object can move it from rest. A force that is applied to a moving object in the direction of its motion can increase its speed.</p>	9.1 PowerPoint slides, Worksheet & Lab. Activity: 9.1 on book p.5-6
5 min	<p><b>Independent Construction – Assessment</b></p> <p>T: What can a force do?</p> <p>Students are expected to say:</p> <ul style="list-style-type: none"> <li>If an object is stationary, a force can make the object move.</li> <li>If an object is moving, a force can change the object's speed. If the force is large enough and in the opposite direction to the moving object, it can make the moving object stop.</li> <li>If an object is moving in one direction, a force can make it change its direction.</li> <li>A force can change the shape of an object.</li> </ul>	9.1 PowerPoint slides & Worksheet
15 min	<p><b>Modeling &amp; Deconstruction</b></p> <p>Teacher explains the two kinds of force:</p> <ul style="list-style-type: none"> <li>In laboratory activity 9.1, we have to touch the objects in order to apply a force. When one object applies a force on another object through direct contact, the force involved is a contact force.</li> <li>But an object can also apply a force on another object that is not in direct contact. The force involved is a non-contact force.</li> </ul> <p>Students carry out Laboratory Activity 9.2 to see an example of non-contact force. They should find that a magnet exerts a force on another magnet that is not in direct contact.</p>	9.1 PowerPoint slides & Lab. Activity: 9.2 on book p.7
	Homework given: Complete the worksheet	

## Language components in S2 Integrated Science [Unit 9.1 Forces]

Grammar Items	Language Functions	Text-Types
<p>[GI1] Using <b>simple present tense</b> to describe experimental results. E.g. 'It <u>starts</u> to move.' (Bk p.5)</p> <p>[GI 11] Using <b>Subject-verb Agreement</b> E.g. 'She <u>applies</u> a force to the ball.' 'I <u>apply</u> a force to knead the flour.'</p> <p>[GI8] Using <b>Present Passive</b> E.g. 'A force <u>is applied</u> to the ball.'</p> <p>[GI28] Using <b>Modals for expressing Possibility and deduction</b> E.g. 'A force <u>can</u> change the speed of an object.'</p>	<p>[LF12] <b>Showing cause and effect</b> E.g. '<u>A force that is applied to an object</u> can change its shape.'</p> <p>[LF25] <b>Drawing Conclusion</b> E.g. '<u>A force can change the speed and the direction of motion of an object.</u>'</p>	<p>[TT4] <b>Explanation text -</b> Describe, explain and generalize experimental results in Lab. Activity 9.1 (Bk p.5-7)</p>