

## LESSON PLAN: Technology Grade 9

Name of School:		Term: 2	Week: 1	
Name of Teacher(s):		Date	31 March - 3 April 2020	
<b>Focus</b>	Investigation skills, Mechanical systems and control			
<b>CLASSROOM ACTIVITIES (generic planning):</b>				
Periods	1	2	3	4
Content, concepts and skills	<p><b>1. INTRODUCING THE PRACTICAL TASK:</b> Integrated Systems Duration of this lesson is one 30-minute period. Systems where mechanical, electrical, hydraulic or pneumatic systems are combined. Scenario: Describe a scenario where a machine combining at least two of the following sub-systems can be effective in giving a mechanical advantage to make work easier: mechanical, electrical or pneumatic/hydraulic systems. Note: The mechanical elements may consist of one or more of the following mechanisms: levers, linked levers, wheels, cams, cranks, pulleys and/or gears. The machine may include a mechanical or electrical control device like a cleat, ratchet and pawl, or switch.</p>	<p><b>2. Investigate</b> the situation so that an appropriate machine can be designed to solve the problem, need or want given in the scenario. Investigate the possible mechanisms and controls to be used together to make the machine</p>	<p><b>3. Revise:</b> syringe mechanics using two equal sized syringes linked by a tube. Force transfer between the syringes filled with: -- Compressed air – pneumatic system. -- Water – hydraulic system. • <b>Action research:</b> learners' experiment with two different sizes of syringes linked by a tube and filled with hydraulic fluid (water). Learners <b>experience</b> force transfer with either force multiplication or force division (depending on which syringe is the driver/master). Gases (like air) are compressible. Liquids (like water, oils) are incompressible</p>	<p><b>4. Action research:</b> Pascal's principle – pressure exerted on one part of a hydraulic system will be transferred equally, without any loss, in all directions to other parts of the system. Note that equal volumes of liquid are moved through the systems, and this results in different extensions (amount of movement) where syringes (cylinders) are of different sizes, so less distance/more force (<math>MA &gt; 1</math>); and more distance/less force (<math>MA &lt; 1</math>).</p>
Teacher's Activities	<ol style="list-style-type: none"> <li>1. Facilitates</li> <li>2. Guides</li> <li>3. Assists</li> <li>4. Demonstrate</li> <li>5. Provides resources</li> </ol>	<ol style="list-style-type: none"> <li>1. Facilitates</li> <li>2. Guides</li> <li>3. Assists</li> <li>4. Demonstrate</li> <li>5. Provides resources</li> </ol>	<ol style="list-style-type: none"> <li>1. Facilitates</li> <li>2. Guides</li> <li>3. Assists</li> <li>4. Demonstrate</li> <li>5. Provides resources</li> </ol>	<ol style="list-style-type: none"> <li>1. Facilitates</li> <li>2. Guides</li> <li>3. Assists</li> <li>4. Demonstrate</li> <li>5. Provides resources</li> </ol>
Learners' Activities	<ol style="list-style-type: none"> <li>1. Participates</li> <li>2. Complete tasks</li> <li>3. Make notes</li> <li>4. Active involvement</li> </ol>	<ol style="list-style-type: none"> <li>1. Participates</li> <li>2. Complete tasks</li> <li>3. Make notes</li> <li>4. Active involvement</li> </ol>	<ol style="list-style-type: none"> <li>1. Participates</li> <li>2. Complete tasks</li> <li>3. Make notes</li> <li>4. Active involvement</li> </ol>	<ol style="list-style-type: none"> <li>1. Participates</li> <li>2. Complete tasks</li> <li>3. Make notes</li> <li>4. Active involvement</li> </ol>
Type of Assessment	Informal	Informal	Informal / Formal	Informal / Formal
Resources	Sasol Inzalo Workbook	Sasol Inzalo Workbook	Sasol Inzalo Workbook	<a href="https://youtu.be/UtfVZtuyyHU">https://youtu.be/UtfVZtuyyHU</a>
	<a href="http://www.mstworkbooks.co.za/technology/gr9/gr9-technology-08.html">http://www.mstworkbooks.co.za/technology/gr9/gr9-technology-08.html</a>	CAPS Document	CAPS Document	<a href="https://youtu.be/BJ9MELhhW6U">https://youtu.be/BJ9MELhhW6U</a>
	<a href="http://www.mstworkbooks.co.za/technology/gr9/gr9-technology-09.html">http://www.mstworkbooks.co.za/technology/gr9/gr9-technology-09.html</a>	<a href="http://www.mstworkbooks.co.za/technology/gr9/gr9-technology-07.html">http://www.mstworkbooks.co.za/technology/gr9/gr9-technology-07.html</a>	<a href="http://www.mstworkbooks.co.za/technology/gr9/gr9-technology-05.html">http://www.mstworkbooks.co.za/technology/gr9/gr9-technology-05.html</a>	<a href="http://www.mstworkbooks.co.za/technology/gr9/gr9-technology-06.html">http://www.mstworkbooks.co.za/technology/gr9/gr9-technology-06.html</a>

<b>IDENTIFIED LEARNERS' NEEDING SUPPORT:</b>	<b>Name of learner(s)</b>	<b>Name of learner(s)</b>
Indicate the name(s) of learner(s) identified as having learning difficulties/not achieving or use the class list	1.	5.
	2.	6.
	3.	7.

**CLASSROOM ACTIVITIES**

**How are you going to include and differentiate Support for learners?**

<b>Teacher Activities</b>	<b>Learner Activities:</b>	<b>Resources</b>
It will be necessary to talk learners through concepts and ideas. Ask relevant questions to help them understand and interpret this information. Teach the specific meaning of all terms and talk learners through the concepts and ideas. Be aware of the different meanings a specific word may have (e.g., the word 'stage' can mean a period of time, a platform, a performance, a robbery)	Actively participate with questions, where possible practical examples, etc	DBE Workbook Gr 9 CAPS-Tech Glossary Guidelines for Inclusive Teaching and Learning Final June 2010 pg 40

**How are you going to include and differentiate Expanded opportunities for learners?**

<b>Teacher Activities</b>	<b>Learner Activities:</b>	<b>Resources</b>
Allocate learner more responsibility: actions / activities / leadership roles, etc Appoint learner as a mentor to another learner	Apply him / her to roles as appointed by the educator. Applies the Buddy System	Guidelines for Inclusive Teaching and Learning Final June 2010 pg57

**TEACHER REFLECTION:**

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Teachers Signature : \_\_\_\_\_ Date: \_\_\_\_\_

**Pre -Moderated** by line manager e.g. HOD/Deputy Principal (attach a moderation tool?): Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**Post moderation by HOD:**

<b>Formal Assessment Feedback</b>								
<b>Assessment Results Analysis</b>	<b>Level of achievement</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
	Indicate number of learners per level achieved							