

## STEM Learning Experiences: Observation & Reflection Checklist

*This checklist is designed as a possible aid for teachers in planning, designing and reflecting on meaningful, integrated STEM learning experiences for their pupils.*

*It is not a requirement for all STEM learning experiences to contain ALL components.*

STEM Component	Prompt questions for reflection	Y/N	Notes & Observations
<b>Authentic Problem</b>	Does the learning experience present a real problem (an engineering challenge)?		
<b>Pupil-centred</b>	Will pupils relate to the problem?		
<b>Open-ended</b>	Does the learning experience allow pupils multiple, creative approaches and solutions?		
<b>Cross-Curricular</b>	Does the learning experience integrate and apply Science and Mathematics curriculum content and skills?		
<b>Design &amp; Make/ Engineering Design Process</b>	Does the learning experience: <ul style="list-style-type: none"> <li>Clearly use the engineering design process as the approach to solving problems?</li> </ul>		
	<ul style="list-style-type: none"> <li>Lead to the design and development of a model or prototype?</li> </ul>		
<b>Hands-on learning</b>	Does the learning use a child-centred, hands-on teaching and learning approach?		
<b>Technology</b>	Is the role of technology in the lesson clear to the students?		
<b>Teamwork</b>	Does the learning experience successfully engage pupils in purposeful teamwork?		
<b>Evaluation &amp; Iteration</b>	Does the learning experience include testing the solution, evaluating the results, and redesigning to improve the outcome?		
<b>Communication</b>	Does the learning experience involve pupils in communicating about their design and results?		

Adapted from Liston, M. (2018). *Designing Meaningful STEM Lessons*. & Jolly, A. (2017). *STEM by Design: Strategies and Activities for Grades 4-8*.