

Building Strong Mines

Manitoba	
Grade 7	
Cluster 3: Forces and Structures	
<u>Specific Learning Outcomes:</u>	<p>7-3-01. Use appropriate vocabulary related to their investigations of forces and structures. Include: frame, shell, solid, centre of gravity, stability, compression, tension, shear, torsion, internal and external forces, stress, structural fatigue, structural failure, load, magnitude, point and plane of application, efficiency.</p> <p>7-3-03. Identify the centre of gravity in a model structure, and demonstrate that changes in the location of a structure's centre of gravity affect its stability</p> <p>7-3-06. Recognize that internal and external forces apply stress to structures, and describe examples in which this stress has led to structural fatigue or structural failure.</p> <p>7-3-09. Describe and demonstrate methods to increase the strength of materials. Examples: corrugation of surfaces, lamination of adjacent members, alteration of the shape of components...</p> <p>7-3-12. Use the design process to construct a structure that will withstand the application of an external force. Examples: a tower that will remain standing during a simulated earthquake...</p>
Cluster 0: Overall Skills and Attitudes	
<u>Specific Learning Outcomes:</u>	<p>7-0-4a Carry out procedures that comprise a fair test</p> <p>7-0-4c Work cooperatively with team members to carry out a plan, and troubleshoot problems as they arise.</p> <p>7-0-4e Demonstrate work habits that ensure personal safety, the safety of others, and consideration for the environment</p> <p>7-0-5c Select and use tools to observe, measure, and construct</p> <p>7-0-8g Discuss societal, environmental, and economic impacts of scientific and technological endeavours</p> <p>7-0-9c Demonstrate confidence in their ability to carry out investigations</p>