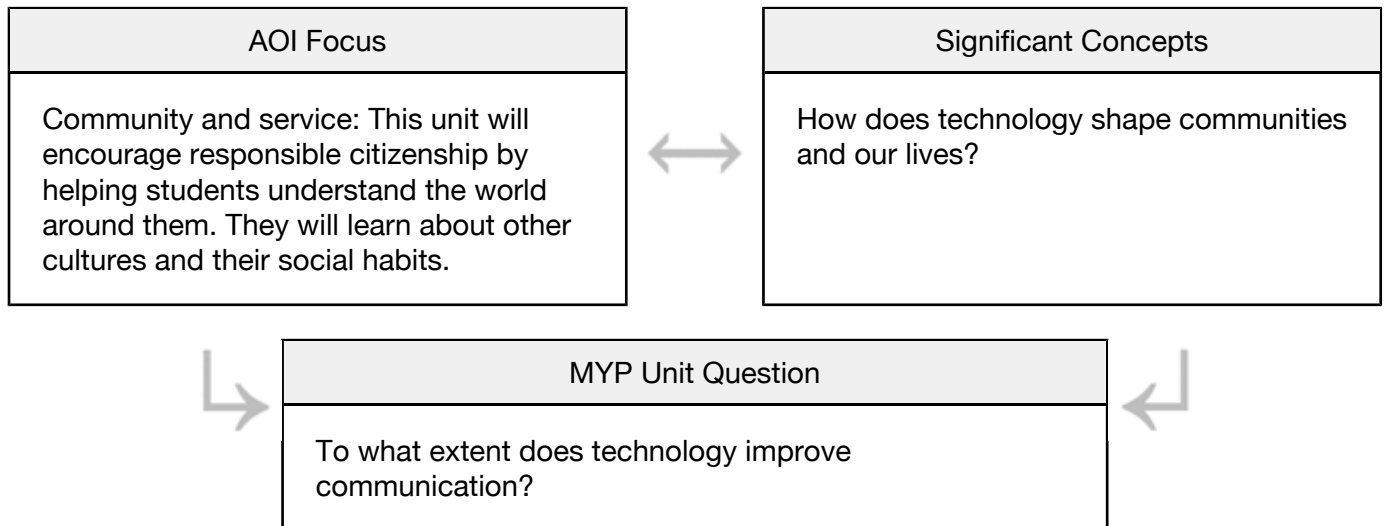


# MYP Unit Planner

Unit Title	<b>Hurling Through Space - January 2012</b>
Teacher(s)	Dauida Viertel
Subject and Grade Level	Design technology Grade 8 – Year 3-8th
Time frame and Duration	4 Weeks

**Stage 1: Integrate significant concept, area of interaction and unit question, and ensure it can be assessed**



## Assessment

<p><b>What task(s) will allow students the opportunity to respond to the unit question?</b></p> <p><b>What will constitute acceptable evidence or understanding? How will students show what they have understood?</b></p>
<p><b>Task S Launch a Marshmellow (A, B, C, D, E)</b></p> <p>To apply the laws of Physics and the equations for projectile motion to design a catapult that can accurately launch a marshmallow and hit a designated target.</p>

<p><b>Which specific MYP objectives will be addressed during this unit?</b></p>
<p><b>A: Investigate</b></p> <ul style="list-style-type: none"> <li>ask relevant questions at the different stages of the investigation.</li> <li>identify appropriate sources of information and acknowledge these using a recognized convention.</li> <li>collect and select information, organize it logically and, with guidance, begin to analyse it.</li> <li>consider, with guidance, the value of sources of information.</li> <li>outline a simple design brief.</li> <li>list, with limited guidance, the specific requirements that must be met by the product/solution</li> <li>design, with limited guidance, tests to evaluate the product/solution against the design specification.</li> </ul> <p><b>B: Design</b></p> <ul style="list-style-type: none"> <li>generate a range of designs that attempt to meet the design specifications.</li> </ul> <p><b>C: Plan</b></p> <ul style="list-style-type: none"> <li>devise, with guidance, a series of logical steps to create the product/solution.</li> </ul> <p><b>D: Create</b></p> <ul style="list-style-type: none"> <li>follow the plan to produce the product/solution with minimal guidance.</li> </ul> <p><b>E: Evaluate</b></p> <ul style="list-style-type: none"> <li>carry out tests to compare the product/solution against the design specification.</li> </ul>

<b>Which MYP assessment criteria will be used?</b>
<b>A: Investigate</b> <b>B: Design</b> <b>C: Plan</b> <b>D: Create</b> <b>E: Evaluate</b>

**Stage 2: Backward planning: from the assessment to the learning activities through inquiry**

**Content**

<b>What knowledge and/or skills (from my course overview) are going to be used to enable the student to respond to the guiding question?</b> <b>What (if any) state, provincial, district, or local standard/skills are to be addressed?</b>
<b>Knowledge &amp; Skills:</b> <ul style="list-style-type: none"> <li>Students will need to know how to research on the internet. Students will use basic building tools to assemble their catapults.</li> </ul> <b>Standards</b> <ul style="list-style-type: none"> <li><b>SC.8.N.1.1 (State):</b> Define a problem from the sixth grade curriculum, use appropriate reference materials to support scientific understanding, plan and carry out scientific investigation of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.</li> <li><b>SC.8.N.1.6 (State):</b> Understand that scientific investigations involve the collection of relevant empirical evidence, the use of logical reasoning, and the application of imagination in devising hypotheses, predictions, explanations and models to make sense of the collected evidence.</li> </ul>

**Approaches to Learning**

<b>How will this unit contribute to the overall development of subject-specific and general ATL skills?</b>
<ul style="list-style-type: none"> <li><b>Collaboration:</b> Working in groups</li> <li><b>Information literacy:</b> Selecting and organizing information</li> <li><b>Thinking:</b> Generating ideas, Creating novel solutions</li> </ul>

**Learning Experiences**

**Teaching strategies**

<b>How will students know what is expected of them? Will they see examples, rubrics, templates, etc.?</b>	<b>How will we use formative assessments to give students feedback during the unit?</b>
Students will have a rubric with the requirements for their catapult. Examples will be out for students to observe. They will have software to practice their design on before construction is started.	Formative assessments will guide the pace of the unit. The labs are used to teach the engineering skills used to make strong catapult of different designs. Research the history of catapults will be used to assess research skills. Working in groups to build catapults out of everyday objects and marshmallow lab will be used to give feedback on skills learned in their labs to demonstrate their understanding of motion and forces by using the catapults to launch objects.
<b>How will students acquire the knowledge and practice the skills required? How will they practice applying these?</b>	<b>What different teaching methodologies will be employed?</b>

<p>Knowledge will be acquired through research, software program and the labs we will do to learn the skills involved in catapult building. Marshmallow Seige and building a catapult from everyday items will be used to apply knowledge.</p>	<p>Students will be taught using several different methods. Methods will include class participation in the labs using small teams, demonstration by the teacher and guided research on the internet. The final project will be taught with the students collaborating with a partner as the teacher guides the teams. By having students participate in the teaching process, they gain self-confidence and strengthen their speaking and communication skills.</p>
<p><b>Do the students have enough prior knowledge?</b></p>	<p><b>How are we differentiating teaching and learning for all? Have we considered those learning in the language other than their mother tongue? Have we considered those with special educational needs?</b></p>
<p>This is our first unit using the design cycle so students will need to learn the steps we will use to create our catapults. There will be a pretest on the design cycle.</p>	<p>Students will work with partners to share ideas. Groups will share projects and skills learned. Language problems will be addressed using the counties language converter software.</p>

## Resources

<p><b>What resources are available to us?</b>  <b>How will our classroom environment, local environment and/or the community be used to facilitate students' experience during the unit?</b></p>
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## Ongoing reflections and evaluations

<p><b>In keeping an ongoing record, consider the following questions. There are further stimulus questions in the unit planning section of MYP: from principles into practice.</b></p>
<p><b>Students And Teachers</b></p> <p><i>What did we find compelling?</i></p> <p><i>What learner-initiated inquiries arose during the learning?</i></p> <p><i>From the evidence, what understandings may have been constructed?</i></p> <p><i>How did we deepen our understanding of the AOI?</i></p> <p><i>What opportunities exist for reflection – both on the unit and on our own learning?</i></p> <p><i>What, if any, extension activities arose?</i></p> <p><b>Collaboration</b></p> <p><i>How successful was the collaboration with other teachers within my subject group and/or from other subject groups?</i></p> <p><i>What interdisciplinary, if any, understandings were forged with other units?</i></p> <p><b>Assessment</b></p> <p><i>In what ways did the assessment task allow students to achieve at the highest descriptors?</i></p> <p><i>How are the skills that were taught articulating to the next level?</i></p> <p><b>Data Collection</b></p> <p><i>What data am I collecting?</i></p> <p><i>For what purpose will the data be used?</i></p>