





Not all assessments in school have to be paper and pencil tests. Sometimes having to use what has been learned in order to make something is an even better test of understanding than being able to "do the math." Grade 11 Physics and Grade 12 Advanced Physics have been investigating two different aspects of momentum. While the Physics class has been studying the tendency of an object moving in a straight line to continue to move in a straight line, Advanced Physics has been investigating the tendency of an object that is rotating to resist changes to that rotation. Both of these concepts are used in the auto industry. Knowing about the forces involved in linear momentum and impulse helps engineers to design crumple zones into the frames of cars, and airbags into the interior spaces to help protect the occupants in the event of a crash. Having a handle on rotational momentum and inertia aids in the design of wheels and tires that require less of a car's energy to turn them.

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In Physics the task was for each student to design and construct a device no bigger than a 30 cm cube that would protect a raw