



The Physics of Safety: Using the Concepts of Energy & Momentum

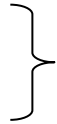
TASK: When we stop suddenly we can cause injury. Your task is to explain how your item/technique works to keep us safe and reduce damage in an oral/visual presentation. You must include:

- #1. Visual (email it to chudecki@wellingtoncdebsb.ca) *1 or 2 pictures at most! I'll put on 1 slide.
- #2. How device is constructed and what it does. (Briefly)
- #3. Physics of Safety:

What is the danger in this situation?

How the item/technique work to keep us safe correctly using the concepts of:

- Momentum
- Impulse
- Force



****MUST PROPERLY DISCUSS ALL FOR BEST MARKS.**



TIME LIMIT: You have 3 minutes maximum so practice your presentation and time it!

RESEARCH: Your research will be assessed. Make sure to follow instructions. You must also include 'References' in proper APA format.

TOPICS:

<ol style="list-style-type: none"> 1. Car crumple zones 2. Protective features of football/hockey helmet 3. Crash nets for downhill skiing 4. Driver wheel airbag 5. Break away telephone poles 6. Bungee cord for bungee jumping 7. Safe landing technique for sky diver 8. Proper way to fall (so as not to break an arm) 9. Drop zone at Wonderland – why don't riders get hurt? 10. Shock absorbers 11. Otter box 12. Shock doctor mouth guards 	<ol style="list-style-type: none"> 13. Playground wood chips/mulch 14. Safe landing (gymnastics) 15. Safe falling (gymnastics) 16. reverse rockets for lunar landings 17. brake falls in martial arts 18. new basketball rims (that break away with slam dunks) 19. Stunt actors – crash bags (when they fall 'to their death' off a high rise) 20. Rollercoasters – how do riders stay in/safe? 21. Child car seats 22. Strategic building explosions. 23. Topic of your choice (must be OK'd by teacher)
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Research Notes: are to be dated & in point form & in your own words. The website/source must be listed above as a title. For example:

<u>www.howstuffworks.com</u>	Found April 1, 2013
<ul style="list-style-type: none"> - Brakes: friction between pads and wheels - Brakes → force opposing the motion - Bicycles – usually brakes on both wheels 	

Only reliable, **unbiased** resources.

Reliable - government agencies (.gov), educational institutes (.edu), medical facilities (.org), etc.

Biased – a website that has predictable (and not necessarily accurate) information.

ie: A company selling

