

Crumple Zone Challenge #1

We will be using the concept of crumple zones to investigate how to “soften” the force of impact when jumping down from an object.

Name	Weight (Due to Gravity)	Landing Force		Landing Force/Weight	
		Trial 1	Trial 2	Trial 1	Trial 2

Which student above had the best Landing Force to Weight Ratio?

Explain using Newton’s 2nd Law why you bend your legs in order to get a “softer landing.”

Dynamics Challenge – Muscle Force and Hang Time

Who can apply the most force during jumping and who has the longest “hang time”?

Name	Weight (N)	Max. Force	Weight/Force	Measured Times		“Hang Time”
				End	Start	

Which student had the largest Weight to Force Ratio?

Which student had the longest hang time?