Honors Physics January 29 - February 2, 2024

Day	Academic Objective	Activities	Homework/Assessments	Biblical Integration
M	Discuss center of mass and stability	Discuss Center of Mass and Stability	• Torque **I** Worksheet • **Print & Read** LAB: Torque • Web post due by Friday 11:59 PM	
TU	Investigate torque and rotational equilibrium	**LAB:** Torque	• *Formal lab report due – end of term, see note below*	Students will understand that God continuously sustains all things throughout the present by exploring centripetal force
W	Describe and calculate horizontal circular motion	Discuss ch 7, pg. 226 – 231 "Circular Motion"	•	
TH	Solve problems with horizontal and vertical circular motion	Discuss ch 7, pg. 226 – 231 "Circular Motion" "Vertical Circular Motion" Practice circular motion problems	• Pg. 263 - 267: 1 – 11 • **Print & Read** LAB: Centripetal Force • Web post due by Friday 11:59 PM	
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Lab reports *for 2nd half of term due 3/5 – Save as PDF 2X*

King of the Hill Project *(Full overview on next page)*

- *Final car due Monday. February 12*
- *RACE Tuesday. February 13*

TEST *on chapter 7 Thursday, February 15*

I choose kindness… I will be kind to the poor, for they are alone. I will be kind to the rich, for they are afraid. And kind to the unkind, for such is how God has treated me. *Max Lucado*

King of the Hill Project Overview

Step 3: Make a practice vehicle that runs at least 10 cm - *Due Monday, January 29*

- This vehicle should follow the guidelines of the King of the Hill Project. It can be a draft model of your project car, but it doesn't have to be your final car.
- It may be as simple or as complicated as you like, but it must run 10 cm without human assistance.

Step 4: King of the Hill Project Car - *Due Monday, February 12*

- This car must follow exactly the project guidelines. *Pay particular attention to size guidelines!*
- Give yourself PLENTY of time to construct your car and to fix small and large things that will break, spin out, snap, flip, or just plain not work.
- You must demonstrate that your car can run at least 10 cm; however, you may take your car home to make final adjustments before the next day competition.

Step 5: King of the Hill Competition – *Due Tuesday, February 13*

- Your car must be ready to run 7 minutes after the bell for class.
- Also bring to class a final schematic of your car with the parts labeled, including what the parts are made from. More than one view might be necessary to show the "engine" of the car and how it works Also include a description of how your car runs and the physics principles behind its design.
- Bring plenty of spare parts!
- In addition to the King of the Hill competition, there will be a race for speed and a race for distance.