Honors Physics January 22 - 26, 2024

Day	Academic Objective	Activities	Homework/Assessments	Biblical Integration
M	Review concepts and problem solving from chapter 6	Overview of TEST on chapter 6	• TEST on Chapter 6 • Web post due by Friday 11:59 PM	Students will understand that God continuously sustains all things throughout the present by applying the laws of conservation of energy and momentum
TU	Demonstrate proficiency with the concepts and problem solving from chapter 6	**TEST** on chapter 6	•	
W	Use physics concepts to design and build a car for competition	King of the Hill Project Overview & Discussion – *see next page*	• **Print, Read & DESIGN -** Design Challenge: Egg Drop Landing Pad • Research KOH Project – Paper Rough Draft due Friday	
TH	Use impulse momentum theorem for engineering design	Engineering Design Challenge - Egg Drop Landing Pad	• Research KOH Project – Paper Rough Draft due Friday	
F	Investigate balanced forces	Review torque problems ACTIVITY: It's a Christmas Re-visit	• KOH Practice car due Monday • Web post due by Friday 11:59 PM	

Lab Reports due for mid-term *– Sunday, January 28, 11:59 P.M.*

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

- *Practice car due Monday. January 28*
- *Final car due Monday. February 12*
- *RACE Tuesday. February 13*

TEST *on chapter 6 Tuesday, January 23*

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 1: Brainstorm and research King of the Hill Project

Step 2: Rough draft drawn on paper – *Due Friday, January 26*

- Drawn on paper with parts labeled, including what the parts will be made from. More than one view might be necessary to show the "engine" of the car and how it will work
- Include a written description of how the car will run, with a description of the physics principles involved.

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.