**Physics Team,**

We have 4 meetings before spring break.  We meet twice this week and twice in March.  The agenda for the following 2 days is outlined below.

2/18/13 from 2-3 PM

2/19/13 from 8-9 AM

3/6/13 from 8-9 AM

3/20/13 from 8-9 AM

We should all have 3rd qtr CFA data to discuss and share by 3/20/13.   We will wait ‘til then to reflect on our findings as many of us are not going to be exploring Newton’s Universal Law of Gravity ‘til March.

**2/19/13 Agenda (2-3PM):**

For Tomorrow’s agenda, I’d like everyone to be able to login in to the course team wiki and bookmark the webpage.  Links:

<https://hphscourseteams.wikispaces.com/Science+Department>

<https://hphscourseteams.wikispaces.com/>

I have also downloaded and attached two docs from the “resources” page/ link to help us better focus our efforts and understand our purpose.  Please download and read the docs.  I hope these provide answers to others questions that were raised at our last meeting.  I think we should reserve some time to clarify our purpose and discuss our goals for this year and next year.  I have meet with Shannon to share and discuss the team’s questions.  I will report back to the team with what I have learned.

Finally, we should be discussing our 4th qtr CFA.  We began discussing wave behavior and simple harmonic motion as common topic across all levels of physics last year.  We all analyze pendulums, sound waves, and standing wave patterns.  But, I don’t recall last year’s conversation evolving into a 4th qtr CFA.  We need to develop a CFA that we can all implement in the first half of the 4th qtr so that we can share our findings and reflect on the data before the end of the year.

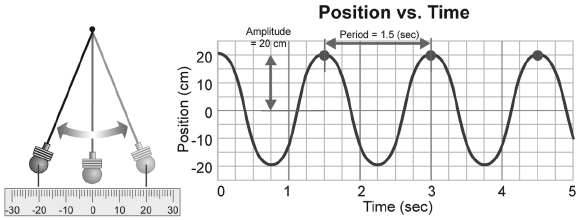
**2/20/13 Agenda: (meet in room G101)**

[8:00 – 8:30]  Finalize the 4th qtr CFA document.  Discuss WebAssign as a possible vehicle to construct and administer CFA.

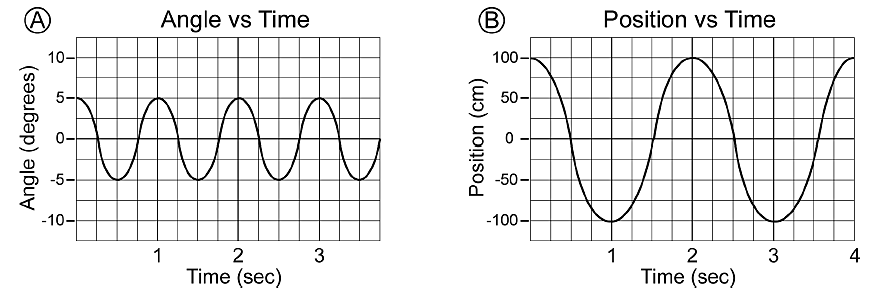
[8:30-9:00] Divide larger group into two teams.  Survey/Fundamental v. Regular/Honors and revisit our learning targets as they relate to the four levels of physics.  Discuss:  How are we differentiating our learning targets amongst our four levels of physics?  Where are the bright lines?

With Regards,  
  
Lars C. Nelson  
Highland Park High School

**Harmonic Motion Graphs**   
  
READ  
  
A graph can be used to show the amplitude and period of an object in harmonic motion. An example of a graph of a pendulumÂ’s motion is shown below.



The distance to which the pendulum moves away from this center point is call the amplitude. The amplitude of a pendulum can be measured in units of length (centimeters or meters) or in degrees. On a graph, the amplitude is the distance from the x-axis to the highest point of the graph. The pendulum shown above moves 20 cm to each side of its center position, so its amplitude is 20 cm.   
  
The period is the time for the pendulum to make one complete cycle. It is the time from one peak to the next on the graph. On the graph above, one peak occurs at 1.5 seconds, and the next peak occurs at 3.0 seconds. The period is 3.0 - 1.5 = 1.5 seconds.   
  
PRACTICE



(a) Use the graphs to answer the following questions.

I. What is the amplitude of each vibration?  
Graph A

( ) A = 10 degrees ( ) correct A = 5 degrees      ( ) A = 0 degrees

Graph B

( ) B = 200 cm ( ) correct B = 100 cm      ( ) B = 0 cm

II. What is the period of each vibration?  
Graph A

( ) correct A = 1 second ( ) A = 0.5 seconds      ( ) A = 1.5 seconds

Graph B

( ) B = 1 second ( ) B = 3 seconds      ( ) correct B = 2 seconds

(b) Use the following grids to draw the following harmonic motion graphs. Be sure to label the y-axis to 19.2 indicate the measurement scale. (Please print out [these graphs](http://www.webassign.net/cpo_pfc/CPO-graph19.pdf) and follow the instructions in parts (b) I and (b) II on these graphs. Your instructor may ask you to turn this work in.)

I. A pendulum with an amplitude of 2 cm and a period of 1 second.  
II. A pendulum with an amplitude of 5 degrees and a period of 4 seconds.

With Regards,  
  
Lars C. Nelson  
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