Tuesday, June 11, 2019 Do you have: • Calculator? • Pen or pencil? • Gold notes page?

Check the seating chart on the front desk

Friday, June 7, 2019 First Five: (LAST FIRST 5) What was your favorite lesson in this class, and why?

Learning Objective: I can describe the different ways that waves interact with other waves

Homework:

EM Project - due FRIDAY (late projects due Monday, 8:00 am)

Thursday, June 6, 2019 **First Five:** (review) What are the three possible ways a 7N vector and a 9N vector can be combined? Draw diagrams and solve mathematically for the resultants. Learning Objective: I can describe the different ways that waves interact with other waves

Homework:

Late work/quiz corrections due THURSDAY EM Project - due FRIDAY Wednesday, June 5, 2019 First Five: (review) Draw a vector diagram for a falling object that is *slowing down*.

Learning Objective: I can describe the different ways that waves interact with other waves

Homework:

Late work/quiz corrections due THURSDAY EM Project - due FRIDAY Tuesday, June 4, 2019First Five:A pendulum makes 19 swings in 8seconds. What is it's period? Frequency?

Learning Objective: I can describe the different ways that waves interact with other waves

Homework: Wave quiz today! Late work/quiz corrections due THURSDAY EM Project - due FRIDAY

Tuesday, June 4, 2019

First Five: Review notes for wave quiz, get your PhET Wave lab ready to turn in.

Learning Objective: I can describe the different ways that waves interact with other waves

Homework: Wave quiz today! Wave anatomy, frequency, period, wave speed, analyzing data (know how to tell direct, inverse/indirect, no relationship for a pair of variables). Monday, June 3, 2019 **First Five:** Compare and contrast direct and inverse relationships between variables.

Learning Objective: I can describe the different ways that waves interact with other waves

Homework: Wave quiz Tuesday, June 4 Wave anatomy, frequency, period, wave speed, analyzing data (know how to tell direct, inverse/indirect, no relationship for a pair of variables). Friday, May 31, 2019 First Five: What is light? What is the difference between red light and blue light?

Learning Objective: I can describe the different ways that waves interact with other waves

Homework: Wave quiz Tuesday, June 4 Wave anatomy, frequency, period, wave speed, analyzing data (know how to tell direct, inverse/indirect, no relationship for a pair of variables).

Pipe	Length of Air (m)	Wavelength (m)	Frequency (Hz)	Speed (m/s)
Α	0.06	0.24	1418	340
B	0.12	0.48	708	340
С	0.16	0.64	531	340
D	0.20	0.80	425	340

Thursday, May 30, 2019 First Five: (copy) The table shows data collected by students during a lab. The students CALCULATED Speed. Explain the math they used to do that.

Learning Objective: I can derive an equation for wave speed from experimental data.

Homework: Wave quiz Tuesday, June 4 Pocket Points Codes: ¾ block = 98962, ‰ block = 44471; Hill 7-8 = 47678

Wednesday, May 29, 2019First Five:Give both the frequency and

- period of a wave that has 5 complete cycles each second.
- Learning Objective: I can evaluate different waves in terms of wavelength, period, frequency, and amplitude.
- Homework: Wave quiz Friday, 5/ 31 Pocket Points Codes: ¾ block = 98962, % block = 44471; Hill 7-8 = 47678

Tuesday, May 28, 2019 First Five: (review) If a best fit line's equation is $y = 15.7 \times + 10$, write a "For every" statement that matches it.

Learning Objective: I can evaluate different waves in terms of wavelength, period, frequency, and amplitude.

Homework: Wave quiz Friday, 5/ 31 Pocket Points Codes: ¾ block = 98962, % block = 44471; Hill 7-8 = 47678

Friday, May 24, 2019 First Five: (review) If a toy car moves 345 cm in 12 s, how far will it get if it moves for 25 seconds?

Learning Objective: I can evaluate different waves in terms of wavelength, period, frequency, and amplitude.



Thursday, May 23, 2019 First Five: (copy) Compare the following waves in terms of wavelength, amplitude, and frequency.

Learning Objective: I can solve for frequency and period of a wave.

Wednesday, May 22, 2019 First Five: draw 1.5 wavelengths of a transverse wave.

Learning Objective: I can solve for frequency and period of a wave.

Tuesday, May 21st First Five: draw a transverse wave and label it's crest, trough, amplitude, rest position, and wavelength

Learning Objective: I can create a graph showing a pendulum's periodic motion.

To-Do Monday, 5/20

- Complete Waves Reading and questions from Monday
- 2. Complete Pendulum Lab due tomorrow
- 3. Read and complete Friday's Waves text and questions
- 4. Complete Review for tomorrow's quiz
- 5. Stay in your seat, headphones for music, but otherwise phones put away

Monday, May 20th *back of last week's* First Five: Describe the ways that a pendulum is similar to a wave.

Learning Objective: I can gather data from a pendulum to determine relationships between variables.

Homework: Quiz on wave background readings and pendulum lab Tuesday, 5/21 -Pendulum labs due tomorrow!

To-Do Friday, 5/17

- Complete Waves Reading and questions from Monday
- 2. Finish lab you must do *your own work*
- 3. Read and complete today's Waves text and questions
- 4. Stay in your seat, headphones for music, but otherwise phones put away

Friday, May 17th First Five: In your own words, describe *why* we calculated class averages in our pendulum lab.

Learning Objective: I can gather data from a pendulum to determine relationships between variables.

Homework: Quiz on wave background readings and pendulum lab Tuesday, 5/21

Length (cm)	Time (s)
10	1.17
20	1.23
30	1.21
40	1.23

Mass (g)	Time (s)
15	0.89
30	1.12
45	1.29
60	1.54

Thursday, May 16th First Five: (copy) Which of the following data sets shows a clear pattern of change? Explain.

Learning Objective: I can gather data from a pendulum to determine relationships between variables.

Homework: Quiz corrections Thursday after school this week. Quiz on lab topics Friday, 5/17

Wednesday, May 15th First Five: In your own words (or diagram), explain what the period of a pendulum is.

Learning Objective: I can gather data from a pendulum to determine relationships between variables.

Homework: Quiz corrections Thursday after school this week. Quiz on lab topics Friday, 5/17



Tuesday, May 14th First Five: Copy down: Examine the following diagram. Which letter indicates rest position? Explain.

Learning Objective: I can gather data from a pendulum to determine relationships between variables.

Homework: Quiz corrections today and Thursday after school this week.

Monday, May 13th First Five: Name three examples of waves that you encountered over the weekend.

Learning Objective: I can describe multiple instances of waves in the real world.

Homework: If your project is not turned in by tomorrow, it will be marked as "missing" and a zero will go into Powerschool

Friday, May 10th First Five: quiz today!!!! Review your notes and study guides for tectonic plates.

Learning Objective: I can...relate surface features to different types of plate boundaries.

Homework: Projects due at the end of the hour today! Enjoy your weekend.

Thursday, May 9th First Five: Describe how Earth's mantle is like a conveyor belt.

Learning Objective: I can...relate surface features to different types of plate boundaries.

Homework: Projects due at the end of the hour today! Quiz Friday, May 10th - Video tutorials posted on Google Classroom.

Wednesday, May 8th First Five: Describe how Earth's mantle is like a conveyor belt.

Learning Objective: I can...relate surface features to different types of plate boundaries.

Homework: Projects due end of the hour

today!

Tuesday, May 7th First Five: What type of plate boundary(ies) would you expect if an area of the Earth had a history of ONLY shallow earthquakes?

Learning Objective: I can...relate surface features to different types of plate boundaries.

Monday, May 6th First Five: What types of boundaries are associated with mountains? Explain.

Learning Objective: I can...relate surface features to different types of plate boundaries.

Friday, May 3rd First Five: Describe what occurs at an continental divergent boundary - what direction are the plates moving, and what features form?

Learning Objective: I can...relate surface features to different types of plate boundaries.

Friday, May 3rd First Five: Describe what occurs at an oceanicoceanic convergent boundary - what direction are the plates moving, and what features form?

Learning Objective: I can...relate surface features to different types of plate boundaries.



Thursday, May 2nd First Five: Describe what occurs at an oceanicoceanic convergent boundary - what direction are the plates moving, and what features form?

Learning Objective: I can...describe convergent, divergent and transform boundaries.

Homework: Silver and Blue tomorrow, Video tutorials posted on Google Classroom.
Thursday, May 2nd First Five: Look at this map of East Africa (on next slide). What evidence do you see that supports the claim that the continent is breaking apart and a rift is forming?

Learning Objective: I can...describe the ways tectonic plates move and interact.

Homework: Silver and Blue tomorrow, Video tutorials posted on Google Classroom.

1. Absolutely NO TALKING until everyone is done with their quiz

- 2. Turn your quiz in to the black bin at the front of the room.
- **3.** Pick up a copy of the worksheet and the reading packet from the desk tray
- 4. Answer questions INDEPENDENTLY on your worksheet, do not write on the reading packet
- 5. Headphones are okay after you turn in your quiz.

Wednesday, May 1st First Five: Review the stages of planetary formation and energy changes that occur with your group.

Learning Objective: I can...describe the ways tectonic plates move and interact.

Homework: Eat at Panera (4-8pm) for Charity week, code "PRFUND" online. Wear purple tomorrow :) **Tuesday, April 30 First Five:** Describe what landforms you would see on earth that would indicate a convergent tectonic boundary with subduction in the region.

Learning Objective: I can...describe the ways tectonic plates move and interact.

Homework: Formation of earth quiz - tomorrow

Monday, April 29 First Five: Describe why oceanic plates are typically at a lower elevation than continental plates.

Learning Objective: I can...describe the ways tectonic plates move and interact.

Homework: Formation of earth quiz - Wednesday

- Friday, April 26 First Five: Describe an energy transfer/conversion that took place during the formation of the earth
- Learning Objective: I can...describe the ways tectonic plates move.
- Homework: Formation of earth quiz Wednesday?

Thursday, April 25 First Five: Review your energy efficiency notes to prepare for your quiz. If you have a calculator you would like to use, go grab it.

Learning Objective: I can...describe how different systems transform energy

Homework: finish project packets

Wednesday, April 24 First Five: Do you think there is life on other planets? Explain.

Learning Objective: I can...describe how Earth's layers were formed during the planet's formation

Homework: finish project packets; Sankey/ Efficiency Quiz Tomorrow

What is a cross section?



Tuesday, April 23 First Five: Draw a cross-section diagram of the Earth showing its different layers (as far as you know)

Learning Objective: I can...describe how Earth's layers were formed during the planet's formation

Homework: finish project packets; Sankey/ Efficiency Quiz Thursday Monday, April 22 First Five: A pole vaulter gains 4800J of energy when jumping 6.25 meters. What is his mass?

Learning Objective: I can...use a sankey diagram to represent energy transformations and calculate energy efficiency of a device

Homework: finish project packets; Quiz Thursday?

Thursday, April 18 First Five: Explain how this diagram shows the Law of Conservation of



Energy Learning Objective: I can...design a system that transfers and converts quantifiable amounts of energy

Homework: Work on RG project packet!

Wednesday, April 17 **First Five:** Explain how this diagram shows the Law of Conservation of Energy



Learning Objective: I can...design a system that transfers and converts quantifiable amounts of energy

Homework: bring in any additional Rube Goldberg materials!

Tuesday, April 16 First Five: If a skateboarder has 18,000 J of GPE at the top a ramp, what will her speed be at the bottom of the ramp? (m= 50 kg)

Learning Objective: I can...design a system that transfers and converts quantifiable amounts of energy

Homework: bring in any additional Rube Goldberg materials!

Monday, April 15 First Five: What is the GPE of a 1.5 kg bird that is flying at a height of 8,800 m?

Learning Objective: I can...design a system that transfers and converts quantifiable amounts of energy

Homework: bring in Rube Goldberg materials!

Friday, April 12 First Five: Review your worksheets from this week to be prepared for today's quiz - go get your calculator if you brought one!!!

Learning Objective: I can...calculate the amount of kinetic and gravitational potential energy in a system.

Homework: Quiz TODAY - KE and PE conversions and calculations

Wednesday, April 11 First Five: List each variable in the formula $E_G = mgh$

Learning Objective: I can...calculate the amount of kinetic and gravitational potential energy in a system. Homework: Quiz TOMORROW - KE and PE conversions and calculations

Tuesday, April 10 First Five: List each variable in the formula $E_k = 1/2mv^2$

Learning Objective: I can...calculate the amount of kinetic and gravitational potential energy in a system. Homework: Quiz FRIDAY - KE and PE conversions and calculations Monday, April 8 *use last weeks first 5* First Five: Where do you go tomorrow morning for testing? Where will class meet on Wednesday (see board)?

Learning Objective: I can...calculate the amount of kinetic and gravitational potential energy in a system.

Homework: Get a good night sleep - testing tomorrow!

- Friday, March 29 First Five: How can the total energy of a system remain constant if one form of energy is decreasing?
- Learning Objective: I can...use models to represent energy changes in a system and define total energy.
- Homework: Complete and submit car crash project report and reflection if not completed already!

Thursday, March 28 First Five: List at least 3 energy conversions that happen from the time you wake up until the time your first class starts at school.

Learning Objective: I can...use models to represent energy changes in a system and define total energy.

Wednesday, March 27 First Five: List as many energy conversions as possible when you turn on a flashlight.

Learning Objective: I can...Describe energy transformations that occur in everyday situations

Tuesday, March 26 First Five: What was the most interesting fact you learned about Energy from the video?

Learning Objective: I can...describe and give examples of different types of energy.

Monday, March 25 First Five: We have locked the word "potential" - what are some of the ways that an object that isn't moving can still have energy?

Learning Objective: I can...express my ideas about energy in various scenarios in writing and discussion.



IT IS POSSIBLE TO HAVE AN IDEA WITHOUT SAYING IT OUT LOUD?

Friday, March 22 First Five: What do you already know about energy?

Learning Objective: I can...express my ideas about energy in various scenarios in writing and discussion.

Homework: Complete and submit car crash project report and reflection if not completed already! If you're done with those two things, just relax this weekend :) **PROJECT REFLECTION RUBRIC** 5/5: All questions are answered. Student has been reflective and thorough in explanations.

4/5: All questions are answered. Student has been reflective but explanations are minimal.

3/5: All questions are answered. Student has given minimal thought and explanation.

2 points or less: Some questions are left blank.

Thursday, March 21 First Five: How is the egg you raced down the track similar to a human brain during a car crash?

Learning Objective: I can...be reflective about what I learned from the Car Crash Project.

Homework: Complete Car Crash Project Report *DUE TODAY. Complete and submit it tomorrow if you are not finished with it yet.* Hill's Class - Newton's Laws Momentum Classwork Packet due FRIDAY

Stapled together in this order

1. Physics of Car Crashes Video WS

2. Newton's Laws Graphic Organizer (you need to do the back)

<u>Understanding Car Crashes Practice Problems</u> (up to #6)

4. <u>Physics of Car Crashes - Biology</u> Video WS5. <u>Impulse POGIL</u> (up to Model 3)

Wednesday, March 20 First Five: Explain why a bungee cord is stretchy. Use the words "force", "change in momentum" and "time" in your explanation.

Learning Objective: I can...analyze crash data to support claims about the relationship between Force and time.

Homework: Complete Car Crash Project Report *DUE THURSDAY* **Tuesday, March 19 First Five:** Make a prediction - at what angle of release/ length of track do you think your egg will crack? Explain why you predict that.

Learning Objective: I can...complete trials with real eggs!

Homework: Complete Car Crash Project Report *DUE THURSDAY* Monday, March 18 *use back of last week* First Five: How will you calculate the speed of your car as it moves down the ramp? What data will you need? What formula will you use?

Learning Objective: I can...complete trials with real eggs!

Homework: Complete sections 1, 2, and 4 of Car Crash Friday, March 15 First Five: Determine the momentum of a 1000 kg car moving northward at 15 m/s. What would be the momentum if mass was doubled?

Learning Objective: I can...use Newton's 3 laws to design a crashworthy egg car.

Homework: Have a great weekend!

Thursday, March 14 **First Five:** Determine the momentum of a 40 kg freshman moving southward at 2 m/s. (hint: use your video sheet to remember the equation to calculate momentum)

Learning Objective: I can...use Newton's 3 laws to design a crashworthy egg car.

Homework: Review class example practice problems

Wednesday, March 13 **First Five:** Assume the Force required to stop a car in 1 seconds is 24,600 Newtons. How much time will need to be taken to stop if we want to reduce the force to 7,235 Newtons?

Learning Objective: I can...use Newton's 3 laws to design a crashworthy egg car.

Homework: Review class example practice problems

Tuesday, March 12 First Five: Assume the Force required to stop a car in 3 seconds is 50,000 Newtons. How much Force will be exerted if the car stops in only 1 second instead of 3?

Learning Objective: I can...use Newton's 3 laws to design a crashworthy egg car.

Homework: Review class example practice problems
Monday, March 11 **First Five:** Use Newton's 2nd law to solve for the amount of Force that an 1800 kg SUV exerts on a car if it decelerates 20 m/s^2 during the collision.

Learning Objective: I can...use Newton's 3 laws to design a crashworthy egg car.

Homework: Review class example practice problems

Friday, March 8 First Five: Use Newton's 3rd law to explain why a bug gets squashed when it hits a car's windshield on the freeway.

Learning Objective: I can...use Newton's 3 laws to design a crashworthy egg car.

Homework: Bring in an empty shoe box!!!

Thursday, March 7 First Five:

Learning Objective: I can...define and describe crash test safety ratings.

Homework: Study "Understanding Car Crashes" practice problems.

Wednesday, March 6 First Five: Bowling centers apply oil to the surface of the alleys between each league that plays. Using what you learned from the Forces Labs we've done, explain why. (hint: friction, balanced forces) Learning Objective: I can...define and describe crash test safety ratings.

Homework: Study "Understanding Car Crashes" video sheet.

Tuesday, March 5 First Five: What are the three possible ways a 7N vector and a 9N vector can be combined? Draw diagrams and solve mathematically for the resultants. Learning Objective: I can...define and describe crash test safety ratings.

Homework: The Physics of Car Crashes packet, if not finished in class.

Monday, March 4 First Five: Give one example of both balanced and unbalanced forces from the PhET tug-of-war simulation.

Learning Objective: I can...predict the effect an applied force will have on an object's motion

Homework: PhET Forces simulation packet, if not completed in class.

Friday, March 1 First Five: List 3 things you need to be sure to keep in mind about vector diagrams and solving for resultants for Today's quiz?

Learning Objective: I can...predict the effect an applied force will have on an object's motion

Homework: Have a great weekend! Finish Types of Forces chart if not completed in class.

Thursday, February 28 First Five: Copy and answer after watching video: What part of Mae Jemison's experience do you most identify with and why?

Learning Objective: I can...predict the effect an applied force will have on an object's motion

Homework: Review vector diagrams! - quiz tomorrow

Wednesday, February 27 -First Five: Copy and answer after watching video: What advice do you think Barrington Irving would give to anyone wanting to fly around the world? Learning Objective: I can...predict the effect an applied force will have on an object's motion

Homework: Review vector diagrams!

Tuesday, February 26 -First Five: Copy and answer after watching video: Why did Adrienne Block get interested in science? Where does she do her work? Learning Objective: I can...predict the effect an applied force will have on an object's motion

Homework: Review vector diagrams!

Breaks are a privilege

You will lose this privilege if you cannot move quietly through the halls or return on time

Please help keep each other in check

Monday, February 25 - pick up a new first 5 First Five: Name one thing that happened in your life over the weekend that was physics related.

Learning Objective: I can...predict the effect an applied force will have on an object's motion

Homework: google code: 7asbgx

Friday, February 22 First Five: How confident are you on a scale of 1-5 (5 = super confident) about taking today's quiz? Explain. Learning Objective: I can...analyze graphs depicting constant and changing speed Homework: Have a Great Weekend!! google code: 7asbgx

Thursday, February 21 First Five: Describe the motion \rightarrow (3) things minimum) Learning Objective: I can...analyze graphs depicting constant and changing speed

Homework: Quiz Friday

google code: 7asbgx



- 1) Graphing a data set that is given to you (scatterplot and best fit line)
- 2) Calculating slope from a best fit line
- 3) Calculating slope from a data table
- 4) Given a graph, create a data table that matches
- 5) Describing the motion being shown by a graph
- 6) Using a data set to complete a CER about the motion of an object
- 7) Given the motion of the moving man, create graphs that match.

Wednesday, February 20 First Five: List all of the things you can know about an object's motion from it's position v. time graph (hint: there are at least 4 things)

Learning Objective: I can...analyze graphs depicting constant and changing speed

Homework: Quiz Friday google code: 7asbgx

Tuesday, February 19 (use back of last week's) First Five: A student group collects the following buggy data: 1s = 10 cm, 2s = 19cm, 3s = 27 cm, 4s = 41 cm. How far does the buggy move *each second*? Learning Objective: I can...analyze graphs depicting constant and changing speed Homework: Quiz Friday? 7asbgx

Thursday, February 14 First Five: A teenager's heart beats at 84 beats per minute. How many heart beats in 1 s? 15 s? 70 s?

Learning Objective: I can...analyze buggy lab data

Homework: join google classroom: 7asbgx (50 out of 105 students have joined)

Wednesday, February 13 First Five: A car travelling at constant speed is 4.5 meters away after 1 sec. How far will it be after 2 sec? 3 sec?

Learning Objective: I can...analyze buggy lab data

Homework: join google classroom: 7asbax: auiz corrections

Monday, February 11 First Five: Describe "constant speed" without using either of those words Learning Objective: I can...collect data to create a distance-time graph that shows the motion of the buggy Homework: join google classroom: **7asbax** See me to make-up CER auiz

Friday, February 8 First Five: What do you already know about motion?

Learning Objective: I can...use a text to provide CER **quiz today**

Homework: join google classroom: 7asbgx

Select theme

Thursday, February 7 First Five: What are the 3 rules for providing good evidence? Learning Objective: I can...use a text or

a data set to provide CER

Homework: quiz Friday on CER; join google classroom: 7asbgx

Select theme

Tuesday, February 5 First Five: What are the 3 rules for writing a claim?

Learning Objective: I can...use a text to provide CER

Homework: quiz Friday on CER; join google classroom: 7asbgx

Select theme

Monday, February 4

First Five: Write a claim, and provide 2 pieces of evidence to answer: What is your favorite move?

Learning Objective: I can...begin using C-E-R to answer questions

Homework: None tonight

Monday, February 4

First Five: Write a claim, and provide 2 pieces of evidence to answer: What is your favorite move?

Learning Objective: I can...begin using C-E-R to answer questions

Homework: None tonight

Friday, February 1 First Five: What was your favorite part of science last year?

Learning Objective: I can...begin using C-E-R to answer questions

Homework: Have a great weekend!