Day 5	**CLASS:** 1.) do optics lab stuff (didn't do this--skipped day due to athletics)	**CLASS:** 1.) talk about Doppler Shift--look at video at https://www.youtube.com/watch?v=h4OnBYrbCjY 2.) relevance to astronomy (start at about 1 minute)? https://www.youtube.com/watch?v=3mJTRXCMU6o 3.) talk about how the sun produces spectral lines (need to talk about black body radiation first, then talk about how light progresses from core outward) 4.) spend a little time talking about telescopes (use video at https://www.youtube.com/watch?v=LzII1f3pp-8);	**Day 2**	**CLASS:** 1.) talk about optics and optical phenomena
	HMWK: 1.) journal	**HMWK:** 1.) journal; 2.) determine how far you are, in miles, from where you were in the galaxy when you were born		**HAVE A GREAT SPRING BREAK**
3/18	3/19	3/20	3/21	3/22
Spring Break	**Spring Break**	**Spring Break**	**Spring Break**	**Spring Break**
3/25	3/26	3/27	3/28	3/29
Spring Break	**Spring Break**	**Spring Break**	**Spring Break**	**Spring Break**
4/1	4/2	4/3	4/4	4/5
CLASS: 1.) do optics lab	**Day 5**	**CLASS:** 1.) preamble to section (celestial sphere; plane, constellations; the Zodiac; celestial plane; seasons, years, etc.)--find good video for this . . . 2.) for fun, show "night sky with various degrees of city light," then "celestial sphere," 3.) talk about types of year--nice summary of earth information (sidereal day, size comparison to sun, etc.) https://ciechanow.ski/earth-and-sun/ 4.) talk about "leap year" (find good video for this);	**CLASS:** 1.) look at AP schedule to see who will be around when 2.) take a side-trip with Einstein's Quantum Riddle at https://www.pbs.org/video/einsteins-quantum-riddle-ykvwhm/	**Day 2**
HMWK: 1.) journal; 2.) for fun, read the article at http://www.jpl.nasa.gov/news/news.php?feature=6223&utm_source=iContact&utm_medium=email&utm_campaign=NASAJPL&utm_content=daily20160330-2		**HMWK:** 1.) journal;	**HMWK:** 1.) journal;	
4/8	4/9	4/10	4/11	4/12

CLASS: 1.) spend day looking at "How the Universe Works" episode talking about the age of the universe; https://www.sciencechannel.com/video/how-the-universe-works-science/hunt-for-the-universes-origin	**CLASS:** 1.) oral exam 2.) talk about stellar evolution of stars whose mass is less than 8 solar masses; 3.) look at stellar evolution ppt at http://faculty.polytechnic.org/physics/1%20Astronomy,%20Cosmology,%20Relativity%202007to2008/7._Section_7_(stellar%20evolution%20and%20planets)/1._Summary_Sect_7--stellar_evolution_and_planets/d.%20small_mass_star_evolution.pdf 4.) look at HISTORY CHANNEL video on stellar evolution (about a half hour);	**Day 5**	**CLASS:** 1.) talk about stellar evolution of stars whose mass is greater than 8 solar masses; 2.) talk about supernovas; https://www.facebook.com/watch/?v=198111215316701 3.) look at supernova video at 4.) look again at nuclide chart and reiterate where elements larger than Fe come from;	**CLASS:** 1.) talk about angular momentum, 2.) talk about pulsars; 3.) listen to pulsars at https://www.youtube.com/results?search_query=sound+from+pulsars or https://www.youtube.com/watch?v=j_3sHeUNn1k and black holes at https://www.google.com/search?q=How+the+Universe+works+episode+black+holes&client=safari&biw=1265&bih=969&ei=C4dZYoCjOYHQkPIPxcmHkA8&ved=0ahUKEwjA1JenqZb3AhUBKEQIHcXkAfIQ4dUDCA0&uact=5&oq=How+the+Universe+works+episode+black+holes&gs_lcp=Cgdnd3Mtd2l6EAMyBggAEBYQHjIGCAAQFhAeMgUIABCGAzIFCAAQhgM6BwgAEEcQsANKBAhBGABKBAhGGABQmR1YlDJgyjRoAnABeACAAWqIAaUIkgEDOC4zmAEAoAEByAEIwAEB&sclient=gws-wiz#kpvalbx=_GYdZYsjaJ7XNkPIP2sqn8AU12 2.) talk about quasars at https://www.youtube.com/watch?v=3TZEp_n3eIc	**CLASS:** 1.) talk about stellar evolution and reiterate where elements larger than Fe come from; 2.) talk about supernovas; 3.) look at supernova video at 4.) look again at nuclide chart and reiterate where elements larger than Fe come from;
HMWK: 1.) journal	**HMWK:** 1.) journal		**HMWK:** 1.) journal	**HMWK:** 1.) journal
4/15	4/16	4/17	4/18	4/19
Day 2	**CLASS:** 1.) talk about Kepler's Laws 2.) basic video on laws: https://www.youtube.com/watch?v=AKbfR5KHUm4 3.) talks about Brahe https://www.youtube.com/watch?time_continue=83&v=wjOOrr2uPuU&feature=emb_logo	**CLASS:** 1.) look at AP schedule and see who will be around when; 2.) talk about distance to celestial objects-- 3.) astronomic unit; 4.) parsec; 5.) luminosity, energy density, and apparent brightness; 6.) standard candles; 7.) apparent magnitudes and absolute magnitudes; 8.) spectral classes https://www.youtube.com/watch?v=Y5VU3Mp6abI&t=1s	**Day 5**	**CLASS:** 1.) have students see what they can find on Einstein
	HMWK: 1.) journal; 2.) think about what you are going to say during the Oral Exam on Friday	**HMWK:** 1.) journal		**HMWK:** 1.) journal
4/22	4/23	4/24	4/25	4/26
CLASS: 1.) begin to talk about Einstein; 2.) whimsical video on Einstein at https://www.youtube.com/watch?v=N51uYJy2nZM 3.) present what motivated Einstein to create the Special Theory of Relativity; 4.) point out the difference between the Special and General Theory of Relativity;	**Day 2**	**CLASS:** 1.) talk about consequences of Einstein's assumptions; 2.) talk about the Michelson/Morley experiment; 2.) do baseball analogy--talk about how "c" can always be the same; 4.) begin to talk about consequences of "c" always being the same using space ship comparison (intro to time dilation and length contraction)--good "time dilation" video/lab at https://galileoandeinstein.phys.virginia.edu/more_stuff/Applets/Lightclock/home.html; 5.) good discussion of causality and the hyperbola patterns mirror proper time count (very essoteric)	**CLASS:** 1.) oral exam	**Day 5**

HMWK: 1.) journal		**HMWK:** 1.) journal;	**HMWK:** 1.)	
4/29	4/30	5/1	5/2	5/3
CLASS: 0.) see when people are taking AP tests 1.) talk more about time dilation (powerpoints); 2.) show derivation of time dilation and length contraction; 3.) talk about space-time diagrams and world lines; 4.) talk about problem of units on axes of space/time diagrams (that time is like a distance, like an x/y graph); 5.) show Woody Allen YouTube https://youtu.be/6uL1Vh4Y0Jc	**CLASS:** 1.) talk about relativistic factor and relativistic velocity--look again at derivation of length contraction (ppt messed up last time); 2.) give banana-eating chimp problem; 3.) look at a space/time diagram--talk more about units for its axes and notice its vagaries 4.) explain why the primed axes looks the way they do on a space-time diagram; 5.) talk about how you take data off a space-time diagram; 6.) do space-time diagram/world line exercise;	**Day 2**	**CLASS:** 1.) talk about magnetism; 2.) talk about paradoxes (start with pole in barn paradox)	**CLASS:** 1.) we meet 2.) talk about paradoxes (pole in barn); 2.) talk about Twins Paradox conceptually; 3.) show space/time diagram of Twins Paradox; 4.) great cartoon/video about Twins Paradox at https://www.youtube.com/watch?v=h8GqaAp3cGs
HMWK: 1.) journal	**HMWK:** 1.) journal		**HMWK:** 1.) journal;	**HMWK:** 1.) journal
5/6	5/7	5/8	5/9	5/10
U.S. Govt AP; Art History **Day 5 (first AP test)**	**MicroEcon AP; Statistics** **CLASS:** 1.)	**English Lit; Comp Sci** **CLASS:** 1.)	**Chinese Lang; Psych** **Day 2**	**U.S. History; Spanish Lit** **CLASS:** 1.)
5/13	5/14	5/15	5/16	5/17
Calculus **CLASS:** 1.) oral exam	**English Lang; Physics C** **Day 5**	**French Lang; Comp Sci** **Prin Music Theory** **CLASS:** 1.)	**Spanish Lang; Biology** **CLASS:** 1.)	**Latin** **Day 2**
5/20	5/21	5/22	5/23	5/24
CLASS: 1.)	**CLASS:** 1.)	**Day 5**	**CLASS:** 1.)	**CLASS:** 1.)
5/27	5/28	5/29	5/30	5/31
Memorial Day Holiday	**BLOCK DAY/senior trip**	**BLOCK DAY/senior trip**	**BLOCK DAY/senior trip**	**BLOCK DAY/senior trip**