**PAULA HEDBAVNY SCHOOL PS/MS 278**

**CURRICULUM MAPS GRADE 8 2015-2016**

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| **MONTH** | **MATH** | **HUMANITIES (ELA)** | **SCIENCE** | **HUMANITIES (SOCIAL STUDIES)** |
|  |  |  | Webpage:  PSMS278JACKSON.  WEEBLY.COM |  |
| **SEPTEMBER**  **OCTOBER** | **Integer Exponents and Scientific Notation** | **Unit 1:**  **Objective:** We will examine the demands and shifting challenges of higher education. We will study the strategies that writers use to express their views and argue their positions related to this topic.  **Readings:** “Essays That Make a Difference,” “The Year of the MOOC,” “A Homeless Girl’s Dream” | **UNIT: HUMAN BODY SYSTEMS**   * Roles, Parts and Functions of main HBS. * Interpreting AND LABELING main parts HBS diagrams * Phase I…..Exit project (research paper draft)   **Essential questions**  1) How are the HBS related as they carry out their roles of helping to sustain balance in the human body?  2) What are some common causes and effects of diseases that affect the HBS?  3) What are the basic roles and parts of each HBS?  **Vocabulary:** calories, diseases, cancer, homeostasis, hormones, enzymes, regulation, HBS systems: digestive, excretory, nervous, Endocrine, reproductive skeletal, muscular, respiratory, and circulatory. | * *Summer non-Fiction Biography Essay* * *Exit Project Summer Work:*   *Next Step: paraphrasing for significance*  UNIT: *How fair is capitalism?*  Gilded Age, Carnegie, Rockefeller, John Muir,  Pres. T. Roosevelt, immigration & labor reforms,  NFL, AFLCIO, Ellis & Angel Island, Homestead strike  Persuasive Essays: Child Labor debate |
| **MONTH** | **MATH** | **ELA** | **SCIENCE** | **SOCIAL STUDIES** |
| **OCTOBER**  **NOVEMBER** | **Congruence and Transformations**   * Rotations * Reflections * Translations | **Unit 2:**  ***Survivor***(Approx. 25 days)  **Objective:** We will explore how the central theme of survival is conveyed in two stories. We will analyze the strategies these authors use to develop and support the idea of survival in an extreme environment.  **Readings:** “The Story of Keesh,” an excerpt from *Life of Pi* | **UNIT: GENETICS & REPRODUCTION**   * Punnett Square, Pedigree charts * DNA, GENES, CHROMOSOMES, ALLELES. * Genetic Engineering   **Essential questions**  1) How can we construct & interpret Punnett squares?  2) What are some common causes and effects of some common genetic disorders?  3) What are the basic structure and implications of Base pair sequencing in DNA molecules?  4) Compare and contrast mitosis and meiosis  5) Compare and contrast asexual and sexual reproduction  6) How has the acquired knowledge of the gene being used to advance our society?  **Vocabulary:** allele, gene, DNA, mitosis, meiosis, fertilization, reproduction, dominant and recessive alleles, selective breeding, cloning, gametes. | **UNIT: *(continued)* *How fair is capitalism****?*  **Geography:** Locate developing vs. developed nations & their resources/scarcity of resources.  **Economics:**  Basic games about economic forces.   * *Exit Project:*   *Next Step: Constitutional Issue Analysis* |
| **MONTH** | **MATH** | **ELA** | **SCIENCE** | **SOCIAL STUDIES** |
| NOVEMBER |  | **Unit 3:**  The Power of Art (Approx. 25 days)  Objective: We will explore the role of art in young lives. We will study the techniques the authors use to share their advice, tell their stories, and explain the role of art in our lives.  Readings: excerpt from *Letters to a Young Artist*, “Zebra,” and “I Want to Write” | **UNIT: GENETICS & REPRODUCTION**   * Punnett Square, Pedigree charts * DNA, GENES, CHROMOSOMES, ALLELES. * Genetic Engineering | **UNIT: *What should government’s role be in helping people? Can too much help weaken us?***  Jazz Age, Dust Bowl, Great Depression, Pres. F.D.R,  WPA Welfare today, today’s recessions  Persuasive essay on minimum wage laws.   * *Exit Project :*   *Step: Claims & Counterclaims of verdict* |
| **MONTH** | **MATH** | **ELA** | **SCIENCE** | **SOCIAL STUDIES** |
| DECEMBER | **Similarity and Transformations**   * Dilations | **Unit 4: *Designing the Future***  (Approx. 25 days)  Objective: We will explore how different teams benefit from the contributions of individuals in different ways. We will study the strategies these authors use to convey their prospective about teamwork.  Readings: “La Vida Robot,” an excerpt from *Steve Jobs*, and “Building the Future Spacesuit” | **UNIT:HUMAN IMPACT ON THE ENVIRONMENT**   * Deforestation Ozone depletion * Global warming Pollution   **Essential questions**   1. How have human activities affected the environment in the following areas: deforestation, use of CFC’s, Use of fossils fuels, and introduction of foreign species? 2. What are some solutions and recommendations to some of the issues named above?   **Vocabulary**: Acid rain, ozone, foreign species, CFC’s, greenhouse gases, conservation, pollutants. | **UNIT: (*continued) What should government’s role be in helping people? Can too much help weaken us?***  **Geography:** Locate Dust Bowl migration for cause and effect of climate change.  **Economics**: basic games about economic cycles and forces, causes of economic downturns   * *Exit Project:*   *Next Step: Timeline events & influence*  *Prep Visual power point/photostory3 to present* |
| **MONTH** | **MATH** | **ELA** | **SCIENCE** | **SOCIAL STUDIES** |
| JANUARY | **Linear Equations**   * Rate of Change and Slope * Slope-intercept form of an equation * Equations with one solution, no solutions or infinitely many solutions * Functions | Unit 5: *Space Invaders*  (Approx. 30 days)  Objective: We will explore, compare, and contrast how two famous science-fiction authors portray life on Earth during an alien invasion.  Readings: an adaptation of “Zero Hour,” an excerpt from *War of the Worlds, and “The Invasion From Outer Space”* | UNIT:ASTRONOMY   * Basic features of the Solar system * Impact of the motions of Earth and moon * Causes and effects of common Space Phenomena   Essential questions   1. What are the distinguishing features of the inner and outer planets? 2. What are some of the effects of the Earth’s motion around the Sun? 3. What are some of the effects of the moon’s motion around the Earth? 4. What are the causes and effects of some common space Phenomena? 5. What are the characteristics of a planet?  * Vocabulary: eclipse, rotation, revolution, galaxy, constellation, satellite, planet, aurora, solar storms, meteors, and black holes. | UNIT: *U.S. as a World power: Bully or Hero?*  WW I, WW II, cause & effects, holocaust,  U.S. in the Caribbean, Spanish-Am. War,  Comparison Essay: of excerpts from  Unbroken and Farewell to Manzanaar,  Middle East conflict zones today  Geography: WW I & II locations and global regionalism today caused by WW II (Israel, Iraq etc.)   * *Exit Project:*   *Step: Finishing research paper & visual.* |
| **MONTH** | **MATH** | **ELA** | **SCIENCE** | **SOCIAL STUDIES** |
| FEBRUARY | **Linear Equations**   * Rate of Change and Slope * Slope-intercept form of an equation * Equations with one solution, no solutions or infinitely many solutions * Functions | **Unit 6: *Children of War***  (Approx. 25 days)  Objective: We will about the impact of war on two young people. We will also study the techniques two authors use to tell about these harrowing stories.  Readings: “Babes in Arms,” excerpt from *First They Killed My Father*, and an excerpt from *A Long Way Gone* | **UNIT:ASTRONOMY**   * Review for Mid Terms * Causes and effects of common Space Phenomena ….project based * Phase II…..Exit project …..completion of research paper | **UNIT: *Post-WWII effects on the Home front***  Women’s roles before/after war, Rosie the Riveter,  Helen Keller, women soldiers*,* Feminists then & now  Geography: cultural and physical regionalism, capitals, rise of transportation routes  Project: Visual Presentation of Information:  Problem/solution essay: Send a written or video clip speech to a leader on a problem & solution for women today. Include infographic evidence.   * *Exit Project: Present.* |
| MARCH | **Systems of Equations**   * Solving graphically and algebraically * Systems with no solutions, one solution or infinitely many solutions * Use a system of equations to solve real-world problems | **Unit 7: *Do the Right Thing***  (Approx. 25 days)  Objective: We will explore the experiences of people who faced difficult situations and are linked to an important event in the civil rights movement. We will also study the narrative techniques the authors used to describe these experiences.  Readings: excerpt from *The Little Rock Nice: Struggle for Integration*, and an excerpt from *Elizabeth and Hazel: Two Women of Little Rock*, and an excerpt from *Warriors Don’t Cry* | **UNIT: Forces and Motion**   * Newton’s laws of motion * Overview of types of simple and compound machines.   **Essential questions**   1. What are the main features and applications of Newton’s 3 laws of motion? 2. What are the main types of simple machines and their uses in our daily lives? 3. Interpreting speed related graphs 4. Application of Formula for force and momentum.   **Vocabulary**; inertia, velocity, machine, lever, force, motion, momentum, balance and unbalanced forces | * **UNIT: *Roots of the Civil Rights Movement:***   *Is violence ever justified for lasting change?*  Reconstruction, Black Codes, black migration, amendments 13, 14, 15, NAACP, Plessy, effects of discrimination: E,S,P Economic, Social, Political  Persuasive essay: Civil Disobedience  **Geography**: Regionalism, 1920s migration routes  Mini-Project: Visual Presentation of Data:  Research, show and draw conclusions concerning economic indicators of prejudice then & now. |
| **MONTH** | **MATH** | **ELA** | **SCIENCE** | **SOCIAL STUDIES** |
| MARCH  Contd. |  |  | **UNIT: Forces and Motion**   * Newton’s laws of motion * Overview of types of simple and compound machines.   **Essential questions**   1. What are the main features and applications of Newton’s 3 laws of motion? 2. What are the main types of simple machines and their uses in our daily lives? 3. Interpreting speed related graphs 4. Application of Formula for force and momentum.   **Vocabulary**; inertia, velocity, machine, lever, force, motion, momentum, balance and unbalanced forces | **UNIT  *continued*: *Civil Rights Movement:***  ***Is violence ever justified for lasting change?***  Gandhi & Civil Disobedience, Brown v. Board of Ed,  Pres. Kennedy & Pres. L.B. Johnson, Malcolm X,  Great Society, 24th Amendment, impact on 1960s-70s  human rights protests, UN Declaration of Rights  Comparison essay: violence vs. non-violence  Geography: Tracing Gandhi’s global influence.  Project: Visual Presentation of Data: Gallery of Civil Rights images then and now: with audio of speeches & music. |
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| MONTH | MATH | ELA | SCIENCE | SOCIAL STUDIES |
| APRIL |  |  | **UNIT:PROPERTIES OF MATTER**   * Properties of Light energy * Properties of Sound energy * Magnetism * Energy transformation.   Essential questions  1. What are the main properties and applications of light & sound energy?  2. What are the features of magnetic force and how can we apply magnetism in our daily lives?  3. What is the law of transformation of energy and how is this realized in our daily lives?  **Vocabulary**: amplitude, frequency, vacuum, vibration, energy transformation, law of conservation of energy | **UNIT: *Post-WWII Effects: Cold War/Nuclear Age***  Hiroshima, Cuban Missile Crisis, Terrorist  threats today, SALT treaties, Arms Race, Vietnam,  draft, War Powers Act, Pres. LBJ, draft,  Communism vs. Capitalism  Essay: debate on limits for nuclear  weapons of mass destruction WMD today  Geography: Asian countries resources  Economics: command, free market & mixed economies  Project: Visual Presentation of Information:  Create a musical timeline presentation of turning points & multiple text points of view protesting war. |
| MAY | **Pythagorean Theorem**   * Interpret square roots and cube roots of numbers * Develop understanding of rational/irrational numbers |  | * Review for Grade 8 state assessment * NYSEDREGENTS.ORG ….practice questions | **UNIT: *Who was the best and worst Modern President and First Ladies?***  Domestic and National Policies of:  Nixon, Carter, Reagan, Bush, war on drugs, environment, Contra scandal, Middle East peace trickle down economics  Project: Visual Presentation of Information:  Create a “Living” History Museum , a gallery of images, political cartoons, recorded sources & re-enactments. |
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| MONTH | MATH | ELA | SCIENCE | SOCIAL STUDIES |
| JUNE | Understand and apply the Pythagorean Theorem |  | Complete and present research projects.  Redo a portfolio piece. | Complete and present research projects.  Redo a portfolio piece. |
| SKILLS | * Model linear and non-linear functions with equations * Solve equations in one variable   Solve systems of equations in two variables |  | LAB SKILLS; Measurement, Microscope , Triple beam Balance  Math connection: graphs, calculations with formulas  Technology: PowerPoint, Excel, Newsletters, research  ELA connection: Unit essays, Analyze, close reading, compare and contrasts, evaluate, cite evidence, supporting details  Vocabulary: quizlet.com: >>>>Jackson278 | For more unit details, especially on vocabulary, writing tasks and projects:  <http://ps278teachingandlearning.wikispaces.com>  /4.7th+Grade+U.S.+Social+Studies |
| Key dates | Math State test | ELA State test | Science State Test:   * Performance ; May 2016 * Written : June 2016   Exit Projects: Research paper\_\_\_\_\_\_\_\_  Poster board \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Exit Project  *Research paper\_\_\_\_\_\_\_\_\_*  *Presentation:\_\_\_\_\_\_\_\_\_\_\_* |