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| Time Frame | Topic/Unit | Skills/Concepts | Major Assessments | Core Standards | Resources |
| 3 weeks | Topic 1: What is Biology & Scientific method? | * Lab #1 Safety in the Laboratory * Lab #2 Investigation of the Scientific Method with written lab report * Lab #3 the Compound light microscope * Lab #4 Pond water Investigation | Topic 1 Exam |  | * Topic 1 PowerPoint * Topic 1 Notes or OneNote * Topic 1 EBQ * Topic 1 Bikini Bottom experiments wks * Topic 1 jungle shark documentary with paired worksheet * Topic 1 graph practice * Topic 1 topic questions and CR questions * Topic 1 castle learnings |
| 2.5 weeks | Topic 2: Chemistry of Life | * Lab #5 Temperature and pH on Enzymes | Topic 2 Exam |  | * Topic 2 Chemistry of Life PowerPoint * Topic 2 Student notes or OneNote * Topic 2 biochem CR and topic guidelines homework * Topic 2 EBQ * Topic 2 Enzymes and Pacman wks * Topic 2 Enzymes make the world go round reading * Topic 2 Castle Learning |
| 3 weeks | Topic 3: Cell Structure and Plasma Membrane | * Lab #6 Cells Alive Internet Activity * NYS Diffusion through a membrane lab | Topic 3 Exam |  | * Topic 3 Cells PowerPoint * Topic 3 NYS pre lab PowerPoint * Topic 3 cells notes or OneNote * Topic 3 Cells city analogy wks * Topic 3 Knowing your cell organelles wks * Topic 3 Cancer Cells EBQ * Topic 3 Cells CR and topic guidelines homework * Topic 3 Castle Learnings |
| 3 weeks | Topic 4: Mitosis & Asexual Reproduction | * Lab #7 Mitosis Lab * Lab #8 Investigating Asexual Reproduction | Topic 4 Exam |  | * Topic 4 Mitosis & Asexual Reproduction PowerPoint * Topic 4 Student notes or One Note * Topic 4 CR or guidelines homework * Topic 4 Pet Shop Mystery wks * Topic 4 Stem Cells EBQ * Topic 4 Asexual Reproduction Group posters * Topic 4 Mitosis graphic coloring study guide * Topic 4 Castle Learnings |
| 3.5-4 weeks | Topic 5: Meiosis & Sexual Reproduction | * Lab #9 Meiosis lab * Lab #10 Human Female Menstral Cycle * Lab #11 Fetal Development | Topic 5 Exam  Topic 5 Animal and Plant Reproduction Take Home Exam |  | * Topic 5 PowerPoint * Topic 5 Student notes or OneNote * Topic 5 guidelines and CR HW * Topic 5 Miracle of Live Video with Questions * Topic 5 Influences on Fetal Development * Topic 5 cord clamping EBQ * Topic 5 Man’s failed paternity test EBQ * Topic 5 Castle Learnings |
| 3 weeks | Topic 6: What is DNA? | * NYS lab making connections * Lab #12 DNA Extraction lab * Lab #13 Genetics with a 😊 | Topic 6 Exam |  | * Topic 6 DNA PowerPoint * Topic 6 Student notes or OneNote * Topic 6 Snorks activity * Topic 6 codon bongo * Topic 6 CR and guidelines homework * Topic 6 DNA EBQ * Topic 6 GATTACA Movie with worksheet * Topic 6 Guided Readings * Topic 6 Castle Learning |
| 4 weeks | Topic 7: Genetics | * Lab #14 Using DNA to Solve a Crime * Lab #15 Karyotype Lab * Lab #16 Virtual Gene-Splicing Lab | Topic 7 Exam  Genetic Engineering Project |  | * Topic 7 PowerPoints * Topic 7 Student notes or OneNote * Topic 7 Dragon Genetics Activity * Topic 7 Punnet squares practice wks * Topic 7 Guided Readings * Topic 7 EBQ * Topic 7 Blood Typing Game * Topic 7 Genetic Engineering Research Paper * Topic 7 Guidelines and CR homework * Topic 7 Castle Learning |
| 3 weeks | Topic 8: Taxonomy & Evolution | * Lab #17 Peppered Moth simulation lab * Lab #18 Investigation of Evolution by natural selection * NYS Lab Beaks of Finches * Lab #19 Shark Dichotomous key lab | Topic 8 Exam  Topic 8 Quiz |  | * Topic 8 PowerPoints * Topic 8 Student Notes or OneNote * Kahoot * Tpoic 8 CR and guidelines homework * Topic 8 Guided Readings * Topic 8 Lucy EBQ * Topic 8 Taxonomy and Dichotomous key practice wks * Topic 8 Evolutionary relationships wks * Topic 8 Galapagos Island movie with questions * Topic 8 castle learning * Topic 8 evolution quiz |
| 2 weeks | Topic 9: Plant Physiology Photosynthesis Vs Cellular Respiration | * Lab #20 Investigating stomata in plants * Lab #21 Photosynthesis and Cellular respiration * Lab #22 Energy in a Cell virtual lab * Lab #23 Chicago Cyanide Murders: a case study in Cellular Respiration | Topic 9 Exam |  | * Topic 9 PowerPoints * Topic 9 Student notes or OneNote * Kahoot * Topic 9 Sea Slugs EBQ * Topic 9 Photosynthesis vs CR Jeopardy * Topic 9 Help Wanted Plant Positions wks * Topic 9 Leaf Anatomy files * 3rd Rover * Topic 9 guidelines and CR homework * Topic 9 Guided Readings * Topic 9 Castle Learning |
| 2 weeks | Topic 10A: Human Body Systems  Respiratory, Circulatory, & Digestive Systems | * Lab #24 Blood Typing lab * Lab #25 Lung Capacity Lab | Topic 10A Exam |  | * Topic 10 PowerPoints * Topic 10 Student Notes or OneNote * Kahoot * Topic 10 worksheets and A&P diagrams * 3rd Rover * Topic 10 bypass EBQ * Topic 10 CR and homework * Topic 10 castle learning |
| 1.5 weeks | Topic 10B: Muscular, Nervous, & Skeletal body systems | * Lab #26 Receptors for touch * Lab #27 Effects of training the brain | Topic 10B Exam |  | * Topic 10B PowerPoints * Topic 10B Student notes or OneNote * Kahoot * 3rd Rover * Topic 10B CR and homework * Topic 10B A&P diagrams and wks * Topic 10B Neuron Paintings Project * Topic 10B Castle Learning |
| 2 weeks | Topic 10C: Endocrine, Immune, & Regulation body systems | * Lab #29 Frog Dissection lab * Lab #30 Modeling Disease Transmission | Topic 10C Exam |  | * Topic 10C PowerPoints * Topic 10C Student notes or OneNote * Kahoot * 3d rover * Topic 10C CR and HW wks * Topic 10C A&P diagrams and wks * Topic 10C castle learnings |
| 3-4 weeks | Topic 11: Ecology | * Lab #31 Food Webs * Lab #32 Food Chains * Lab #33 Amino Acid Sequence * NYS Relationships and Biodiversity lab | Topic 11 Exam |  | * Topic 11 PowerPoints * Topic 11 student notes or OneNote * Kahoot * Topic 11 CR and guidelines HW WKS * Topic 11 Zebra mussels EBQ * Topic 11 Ecological succession wks * Topic 11 Ecological succession watercolor activity * Topic 11 Deer predation graph * Topic 11 The lion king food web * Topic 11 The 11th hour documentary with worksheet * Topic 11 Predator/ pray Life video with worksheet * Topic 11 Castle learnings |
| 2 weeks | Topic 12: REVIEW | * Lab #34 Extra Graph Practice | NYS Living Environment Regents in June |  | * Livingenvironmentsregentsprep.org * LE Interactive Regents * LE Boot camp survival guide * State lab review packets * Copies of old exams |