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| **10th Grade Biology****Tentative Pacing Guide**  | **Weiner High School** **weiner_cardinal.jpg****2010-11** |
| **Mrs. Smith** |
| **First Semester**  |
| Timeline  | Topic  | Unit/Chapter  | Standards  | Skills | Resources  |
| ***1st Nine weeks***  |
| ***Introduction to Biology***  |
|  | **Nature of Science**  | ***Chapter 1***C:\Program Files\Microsoft Office\MEDIA\CAGCAT10\j0301076.wmf | **6 Days**  | **NS.10.B.1Explain** why science is limited to natural explanations of how the world works**NS.10.B.2Compare and contrast** hypotheses, theories, and laws**NS.10.B.3  Distinguish** between a scientific theory and the term “theory” used in general conversation**NS.10.B.4Summarize** the guidelines of science: * *explanations* are based on observations, evidence, and testing
* *hypotheses* must be testable
* understandings and/or conclusions may change with additional empirical data

**NS.11.B.1  Develop and explain** the appropriate procedure, controls, and variables (dependent and independent) in scientific experimentation**NS.11.B.2Research and apply** appropriate safety precautions (refer to ADE Guidelines) when designing and/or conducting scientific investigations**NS.11.B.3  Identify** sources of bias that could affect experimental outcome**NS.11.B.4  Gather and analyze** data using appropriate summary statistic**NS.11.B.5  Formulate** valid conclusions without bias**NS.11.B.6  Communicate** experimental results using appropriate reports, figures, and tables**NS.12.B.1Recognize** that theories are scientific explanations that require empirical data, verification, and peer review**NS.12.B.2Understand** that scientific theories may be modified or expanded based on additional empirical data, verification, and peer review **NS.15.B.1Research and evaluate** science careers using the following criteria:* educational requirements
* salary
* availability of jobs
* working conditions
 | Powerpoint:[Scientific Method](Mrs.%20Smith/Biology/Powerpoints/1-Scientific%20Method.ppt) |
| [***http://biologyjunction.com/images/dancingdot4.gifChapter Study Guide***](http://biologyjunction.com/study_guides_bi.htm)  | ***http://biologyjunction.com/images/dancingdot4.gif***[***Practice Test for Chapter***](http://biologyjunction.com/quizzes.htm)  |
| ***Chemistry of Organisms***  |
| **2 Days** | **Chemistry**  | ***Chapter 2**** [**Energy, Enzymes, Water**](http://biologyjunction.com/chapter_2_chemistry_notes.htm)

C:\Documents and Settings\Administrator\Local Settings\Temporary Internet Files\Content.IE5\C2YJITX6\MC900268956[1].wmf | ***Molecules & Cells*****Standard 1:** Students shall demonstrate an understanding of the role of chemistry in life processes. | Stan **MC.1.B.2Describe** the relationship between an enzyme and its substrate molecule(s). **MC.1.B.3** **Investigate** the properties  (surface tension, cohesion, adhesion, polarity, pH) and importance of water and its significance for life.**MC.1.B.4****Explain** the role of energy (activation, endergonic, & exergonic) in chemical reactions of living systems. | Powerpoint: |
| ***Biochemistry of Organisms***  |
| **7 Days** | **Cellular Chemistry**  | ***Chapter 3*** * [**Biochemistry**](http://biologyjunction.com/biochemistry_notes_bi_ch3.htm)imagesCAN9N8Q8.jpg
 | ***Molecules & Cells*****Standard 1:** Students shall demonstrate an understanding of the role of chemistry in life processes. | **MC.1.B.1  Describe** the structure and function of the major organic molecules found in living systems:* ***Carbohydrates***
* ***Proteins***
* ***Lipids***
* ***Nucleic Acids***

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| [***http://biologyjunction.com/images/dancingdot4.gifChapter Study Guide***](http://biologyjunction.com/study_guides_bi.htm)  | ***http://biologyjunction.com/images/dancingdot4.gif***[***Practice Test for Chapter***](http://biologyjunction.com/quizzes.htm)  |
| ***Cells***  |
| **10 Days** | **Cellular Structure**  | ***Chapter 4*** * [**Cell Structure & Function**](http://biologyjunction.com/cell%20%20notes%20bi.htm)

imagesCAL3O7HI.jpg | ***Molecules & Cells*****Standard 2**: Students shall demonstrate an understanding of the structure and function of cells. | **MC.2.B.1  Construct** a hierarchy of life from cells to *ecosystems.* **MC.2.B.2Compare and contrast** *prokaryotes* and *eukaryotes.* **MC.2.B.3** **Describe** the role of sub-cellular structures (organelles, ribosomes, & cytoskeleton) in the life of a cell. **MC.2.B.4Relate** the function of the *plasma* (*cell) membrane* to its structure.**MC.2.B.5   Compare and contrast** the structures of an animal cell to a plant cell. **MC.2.B.11Discuss** *homeostasis* using *thermoregulation* as an example. **MC.3.B.1** **Compare and contrast** the structure and function of *mitochondria* and *chloroplasts .*  |  |
| [***http://biologyjunction.com/images/dancingdot4.gifChapter Study Guide***](http://biologyjunction.com/study_guides_bi.htm)  | ***http://biologyjunction.com/images/dancingdot4.gif***[***Practice Test for Chapter***](http://biologyjunction.com/quizzes.htm)  |
| **7 Days** | **Cell Membranes**  | ***Chapter 5*** * [**Homeostasis & Transport**](http://biologyjunction.com/homeostasis_notes_bi.htm)

imagesCAN2N78G.jpg | ***Molecules & Cells*****Standard 2**: Students shall demonstrate an understanding of the structure and function of cells. | **MC.2.B.7  Compare and contrast** *active transport* and *passive transport* *mechanisms:** **Diffusion**
* **Osmosis**
* **Endocytosis**
* **Exocytosis**
* **Phagocytosis**
* **Pinocytosis**
 |  |
| [***http://biologyjunction.com/images/dancingdot4.gifChapter Study Guide***](http://biologyjunction.com/study_guides_bi.htm)  | ***http://biologyjunction.com/images/dancingdot4.gif***[***Practice Test for Chapter***](http://biologyjunction.com/quizzes.htm)  |
| ***Cellular Processes***  |
| **4 Days** | **Cellular Energetics**  | ***Chapter 6***[**Photosynthesis**](http://biologyjunction.com/photosynthesis_notes.htm)imagesCAEMZ2U9.jpg | ***Molecules & Cells*****Standard 3:** Students shall demonstrate an understanding of how cells obtain and use energy. **(Energetics)**  | **MC.2.B.6Compare and contrast** the functions of *autotrophs* and *heterotrophs***MC.3.B.1   Compare and contrast** the structure and function of *mitochondria* and *chloroplasts.* **MC.3.B.4** **Describe and model** the conversion of light energy to chemical energy by photosynthetic organisms (light dependent & independent reactions).**MC.3.B.5  Compare and contrast** *cellular respiration* and *photosynthesis* as energy conversion pathways**.**  |  |
| [***http://biologyjunction.com/images/dancingdot4.gifChapter Study Guide***](http://biologyjunction.com/study_guides_bi.htm)  | ***http://biologyjunction.com/images/dancingdot4.gif***[***Practice Test for Chapter***](http://biologyjunction.com/quizzes.htm)  |
| **5 Days** | **Cellular Energetics**  | ***Chapter 7***[**Cellular Respiration**](http://biologyjunction.com/cell_respiration_bi.htm)imagesCALZ1FIW.jpg | ***Molecules & Cells*****Standard 3:** Students shall demonstrate an understanding of how cells obtain and use energy. **(Energetics)**  | **MC.3.B.1Compare and contrast** the structure and function of *mitochondria* and *chloroplasts.* **MC.3.B.2  Describe and model** the conversion of stored energy (glycolysis, citric acid cycle, electron transport chain) in organic molecules into usable cellular energy (ATP).**MC.3.B.3  Compare and contrast** *aerobic* and *anaerobic respiration* (lactic acid and alcoholic fermentation). **MC.3.B.5**   **Compare and contrast** *cellular respiration* and *photosynthesis* as energy conversion pathways.  |  |
| [***http://biologyjunction.com/images/dancingdot4.gifChapter Study Guide***](http://biologyjunction.com/study_guides_bi.htm)  | ***http://biologyjunction.com/images/dancingdot4.gif***[***Practice Test for Chapter***](http://biologyjunction.com/quizzes.htm)  |
| ***Second Nine Weeks***  |
| **7 Days** | **Cell Division**  | ***Chapter 8***[**Cell Cycle & Division**](http://biologyjunction.com/cell_division_notes.htm)imagesCAC99918.jpg | ***Molecules & Cells*****Standard 2**: Students shall demonstrate an understanding of the structure and function of cells.  | **MC.2.B.8Describe** the main events in the *cell cycle* (mitosis, interphase, & cytokinesis)*,* including the differences in plant and animal cell division.**MC.2.B.9  List in order and describe** the stages of *mitosis* (prophase, metaphase, anaphase, & telophase).**MC.2.B.10****Analyze** the meiotic maintenance of a constant *chromosome* number from one generation to the next.**CDL.7.B.8** **Compare and contrast** life cycles (sexual & asexual) of familiar organisms.**HE.4.B.4  Examine** different modes of inheritance such as  *crossing over.*  |  |
| [***http://biologyjunction.com/images/dancingdot4.gifChapter Study Guide***](http://biologyjunction.com/study_guides_bi.htm)  | ***http://biologyjunction.com/images/dancingdot4.gif***[***Practice Test for Chapter***](http://biologyjunction.com/quizzes.htm)  |
| **8 Days** | **Heredity**  | ***Chapters 9 & 12*** [**Genetics**](http://biologyjunction.com/mendelian_genetics.htm) imagesCAGLT0L3.jpg | ***Heredity & Evolution*****Standard 4:**Students shall demonstrate an understanding of *heredity****.***  | **HE.4.B.1Summarize** the outcomes of Gregor Mendel’s experimental procedures. **HE.4.B.2Differentiate** among the *laws and principles of inheritance* (dominance, segregation, independent assortment). **HE.4.B.3** **Use the *laws* of probability and *Punnett squares*** to predict *genotypic* and *phenotypic* *ratios.* **HE.4.B.4** **Examine** different modes of inheritance (sex linkage, codominance, crossing over, incomplete dominance, & multiple alleles. **HE.4.B.5 Analyze** the historically significant work of prominent geneticists. **HE.4.B.6**  **Evaluate *karyotypes*** for abnormalities such as monosomy & trisomy.  |  |
| [***http://biologyjunction.com/images/dancingdot4.gifUnit Study Guide***](http://biologyjunction.com/study_guides_bi.htm)  | ***http://biologyjunction.com/images/dancingdot4.gif***[***Practice Test for Unit***](http://biologyjunction.com/quizzes.htm)  |
| **10 Days** | **Nucleic  Acids & Proteins**  | **Chapters 10, 11, 13**[**Nucleic Acids & Protein Synthesis**](http://biologyjunction.com/nucleic_acids_.htm)  imagesCAP2F5DP.jpg | ***Heredity & Evolution*** **Standard 5:**Students shall investigate the molecular basis of genetics**.**  | **HE.5.B.1  Model** the components of a *DNA nucleotide* and an *RNA* *nucleotide.* **HE.5.B.2Describe** the Watson-Crick *double helix model* of *DNA,* using the *base-pairing rule* (a*denine-thymine*, *cytosine-guanine*).**HE.5.B.3** **Compare and contrast** the structure and function of *DNA* and *RNA.* **HE.5.B.4** **Describe and model** the processes of replication, *transcription*, and *translation*.**HE.5.B.5** **Compare and contrast** the different types of *mutation* events, including *point mutation*, *frameshift mutation*, *deletion*, and *inversion.* **HE.5.B.6** **Identify** effects of changes brought about by *mutations* (beneficial, harmful, & neutral).**MC.1.B.1** **Describe** the structure and function of nucleic acids found in living systems.**NS.12.B.6****Relate** the *chromosome theory of heredity* to recent findings in genetic research(e.g., *Human Genome Project-HGP, chromosome therapy).*   |  |
| ***http://biologyjunction.com/images/dancingdot4.gif***[***Nucleic Acid Review***](http://biologyjunction.com/nucleic%20acid%20review.doc) | ***http://biologyjunction.com/images/dancingdot4.gif***[***Practice Test for Unit***](http://biologyjunction.com/quizzes.htm)  |
| ***Ecology***  |
| **10 Days** | ***Ecology and Behavior***  | **Unit 5**[**Ecology**](http://biologyjunction.com/ecology_notes_bi.htm) imagesCAGKDGNA.jpg | ***Ecology & Behavioral Relationships*** **Standard 8:** Students shall demonstrate an understanding of ecological and behavioral relationships among organisms.  **Standard 9:** Students shall demonstrate an understanding of the ecological impact of global issues. | **EBR.8.B.1** **Cite** examples of abiotic and *biotic factors* of *ecosystems****.*** **EBR.8.B.2   Compare and contrast** the characteristics of *biomes****.*** **EBR.8.B.3  Diagram** the carbon, nitrogen, phosphate, and water cycles in an *ecosystem.* **EBR.8.B.4Analyze** an *ecosystem’s* energy flow through food chains, food webs, and *energy pyramids.* **EBR.8.B.5  Identify and predict** the factors that control *population*, including *predation*, *competition*, crowding, water, nutrients, and shelter. **EBR.8.B.6Summarize** the symbiotic ways in which individuals within a *community* interact with each other: * ***commensalism***
* ***parasitism***
* ***mutualism***

**EBR.8.B.7Compare and contrast** *primary succession* with *secondary succession.* **EBR.8.B.8** **Identify** the properties of each of the five levels of *ecology:** **organism**
* ***population***
* ***community***
* ***ecosystem***
* ***biosphere***

**EBR.9.B.1** **Analyze** the effects of human *population* growth and *technology* on the environment/*biosphere.* **EBR.9.B.2** **Evaluate** long range plans concerning resource use and by-product disposal in terms of their environmental, economic, and political impact. **EBR.9.B.3**  **Assess** current world issues applying scientific themes (e.g., global changes in climate, *epidemics*, *pandemics*, ozone depletion, UV radiation, natural resources, use of *technology*, and public policy).  |  |
| [***http://biologyjunction.com/images/dancingdot4.gifUnit Study Guide***](http://biologyjunction.com/study_guides_bi.htm)  | ***http://biologyjunction.com/images/dancingdot4.gif***[***Practice Test for Chapter***](http://biologyjunction.com/quizzes.htm)  |
| **End of First Semester!!!!!** |
| **Second Semester**  |
| ***3rd Nine Weeks***  |
| **Timeline**  | **Topic**  | **Unit/Chapter**  | **Learner Skills**  | **Standards**  | **Resources**  |
| **10 Days** | **Evolution**  | ***Chapters 14,15,16*** [**Evolution**](http://biologyjunction.com/darwin%20%26%20natural%20selection%20notes%20bi.htm) imagesCAUBDUUZ.jpg | ***Heredity & Evolution*** **Standard 6:**Students shall examine the development of the *theory* of *biological evolution.* | **HE.6.B.1  Compare & contrast Lamarck's explanation** of evolution with **Darwin's** theory of evolution by natural selection.**HE.6.B.2****Recognize** that evolution involves a change in **allele frequencies** in a population across successive generations.**HE.6.B.3Analyze** the effects of **mutations** and the resulting variations within a population in terms of natural selection.**HE.6.B.4****Illustrate mass extinction** events using a time line.**HE.6.B.5****Evaluate** evolution in terms of evidence as found in the following:* **fossil record**
* ***DNA* analysis**
* ***artificial selection***
* **morphology**
* **embryology**
* **viral *evolution***
* **geographic distribution of related *species***
* ***antibiotic* and *pesticide* *resistance* in various organisms**

**HE.6.B.6Compare** the processes of relative and radioactive dating to determine the age of fossils.**NS.12.B.2** **Understand** that scientific theories may be modified or expanded based on empirical data, verification, & peer review.**NS.12.B.3****Summarize** biological evolution.  |  |
| [***http://biologyjunction.com/images/dancingdot4.gifUnit Study Guide***](http://biologyjunction.com/study_guides_bi.htm)  | ***http://biologyjunction.com/images/dancingdot4.gif***[***Practice Test for Unit***](http://biologyjunction.com/quizzes.htm)  |
| ***TAXONOMY***  |
| **7 Days** | **Classification& Diversityof Life**  | ***Chapter 18***[**Taxonomy**](http://biologyjunction.com/taxonomy_notes_bi.htm)imagesCAWMCE5F.jpg | ***Classification & Diversity of Life*****Standard 7:**Students shall demonstrate an understanding that organisms are diverse. | **HE.6.B.7 Interpret** a *Cladogram.* **CDL.7.B.1Differentiate** among the different *domains* (Bacteria, Archaea, & Eukarya).     **CDL.7.B.2 Differentiate** the characteristics of the six kingdoms:* **Eubacteria**
* **Archaea**
* **Protista**
* ***Fungi***
* **Plantae**
* **Animalia**

**CDL.7.B.3Identify** the seven major taxonomic categories: * **kingdom**
* **phylum**
* **class**
* **order**
* **family**
* ***genus***
* ***species***

**CDL.7.B.4Classify and name** organisms based on their similarities and differences applying *taxonomic nomenclature* using *dichotomous keys.* |  |
| [***http://biologyjunction.com/images/dancingdot4.gifChapter Study Guide***](http://biologyjunction.com/study_guides_bi.htm)  | ***http://biologyjunction.com/images/dancingdot4.gif***[***Practice Test for Chapter***](http://biologyjunction.com/quizzes.htm)  |
| ***Microorganisms***  |
| **10 Days** | ***MICROBES***  | ***Chapters 23 & 24*** [**Bacteria**](http://biologyjunction.com/bacteria_notes_b1.htm)**and**[**Viruses**](http://biologyjunction.com/virus_notes_b1.htm) untitled.bmp | ***Classification & Diversity of Life*****Standard 7:**Students shall demonstrate an understanding that organisms are diverse. | **CDL.7.B.1 Differentiate** between the  *domains* Bacteria & Archaea. **CDL.7.B.2** **Differentiate** the characteristics of these kingdoms --- Eubacteria & Archaea. **CDL.7.B.6** **Compare and contrast** the structures and characteristics of *viruses* (*lytic* and *lysogenic cycles*) with non-living and living things. **CDL.7.B.7  Evaluate** the medical and economic importance of *viruses.* **CDL.7.B.8** **Compare and contrast** life cycles (sexual & asexual) of bacteria.  **CDL.7.B.9** **Classify** *bacteria* according to their characteristics and adaptations. **CDL.7.B.10** **Evaluate** the medical and economic importance of *bacteria.* **HE.6.B.5Evaluate** *evolution* in terms of evidence as found in the following: * ***viral evolution***
* ***antibiotic and pesticide resistance in various organisms***
 |  |
| [***http://biologyjunction.com/images/dancingdot4.gifUnit Study Guide***](http://biologyjunction.com/study_guides_bi.htm)  | ***http://biologyjunction.com/images/dancingdot4.gif***[***Practice Test for Unit***](http://biologyjunction.com/quizzes.htm)  |
| **10 Days** | ***Protists & Fungi***  | ***Chapters 25 & 26*** ***Protists:***[**Protozoan**](http://biologyjunction.com/protozoan_notes_b1.htm)[**Algal-like**](http://biologyjunction.com/algal__fungal_protist_notes_b1.htm)**&**[**Fungi**](http://biologyjunction.com/fungi_notes_b1.htm) imagesCANDJL7E.jpg | ***Classification & Diversity of Life*****Standard 7:**Students shall demonstrate an understanding that organisms are diverse.  | **CDL.7.B.2Differentiate** the characteristics of the kingdoms **Protista &  Fungi.** **CDL.7.B.11  Describe** the characteristics used to classify protists**:** * **plant-like**
* **animal-like**
* **fungal-like**

**CDL.7.B.12  Evaluate** the medical and economic importance of protists .**CDL.7.B.13** **Compare and contrast** *fungi* with other eukaryotic organisms**.** **CDL.7.B.14  Evaluate** the medical and economic importance of *fungi*. |   |
| [***http://biologyjunction.com/images/dancingdot4.gifChapter Study Guide***](http://biologyjunction.com/study_guides_bi.htm)  | ***http://biologyjunction.com/images/dancingdot4.gif***[***Practice Test for Chapter***](http://biologyjunction.com/quizzes.htm)  |
| ***End of 3rd Nine Weeks*** |
| ***PLANTS*** |
| **16 Days**  | ***Vascular & Nonvascular Plants***  | ***Unit 7* Plants**[**Mosses & Ferns**](http://biologyjunction.com/moss__fern_notes_b1.htm)[**Seed Plant taxonomy**](http://biologyjunction.com/plant_taxonomy_bi.htm)[**Seed Plant Structure**](http://biologyjunction.com/plant_structure_bi1.htm)[**Seed Plant Reproduction**](http://biologyjunction.com/plant_reproduction.htm)imagesCAZ582QT.jpg | ***Classification & Diversity of Life*****Standard 7:**Students shall demonstrate an understanding that organisms are diverse. | **CDL.7.B.2Differentiate** the characteristics of the kingdom **Plantae.** **CDL.7.B.15Differentiate** between *vascular* and *nonvascular plants.* **CDL.7.B.16Differentiate** among cycads, gymnosperms, and angiosperms**.** **CDL.7.B.17 Describe** the structure and function of the major parts of a plant: * **roots**
* **stems**
* **leaves**
* **flowers**

**CDL.7.B.18  Relate** the structure of plant tissues (epidermal, ground, vascular) to their functions.**CDL.7.B.19 Evaluate** the medical and economic importance of plants.**CDL.7.B.8**Compare and contrast life cycles of familiar organisms * sexual reproduction
* asexual reproduction
* metamorphosis
* *alternation of generations*

**CDL.7.B.5**  **Investigate** Arkansas' *biodiversity* using appropriate tools and *technology.* |   |
| [***http://biologyjunction.com/images/dancingdot4.gifUnit Study Guide***](http://biologyjunction.com/study_guides_bi.htm)  | ***http://biologyjunction.com/images/dancingdot4.gif***[***Practice Test for Unit***](http://biologyjunction.com/quizzes.htm)  |
| ***4th Nine Weeks***  |
| ***ANIMALS*** |
| **5 Days**  | ***Animal Diversity***  | ***Chapter 32***[**Introduction to Animals**](http://biologyjunction.com/introduction_to_animal_notes_b1.htm) [**Animal Characteristics Notes**](http://biologyjunction.com/Animals%20characteristic%20Notes%20%28general%29.doc)  imagesCAWD2J0O.jpg | ***Classification & Diversity of Life*****Standard 7:**Students shall demonstrate an understanding that organisms are diverse.  | **CDL.7.B.20Identify** the symmetry of organisms: * **radial**
* **bilateral**
* **asymmetrical**

**CDL.7.B.2Differentiate** the characteristics of the kingdom **Animalia** . **CDL.7.B.8****Compare and contrast** life cycles (sexual & asexual) of familiar organisms.  |   |
| [***http://biologyjunction.com/images/dancingdot4.gifChapter Study Guide***](http://biologyjunction.com/study_guides_bi.htm)  | ***http://biologyjunction.com/images/dancingdot4.gif***[***Practice Test for Chapter***](http://biologyjunction.com/quizzes.htm)  |
| ***Invertebrates***  |
| **3 Days** | ***Simple Invertebrates***  | ***Chapters 33 & 34***[**Sponges, & Cnidarians**](http://biologyjunction.com/sponges__cnidarian_notes_b1.htm)**[Unsegmented Worms](http://biologyjunction.com/unsegmented_worm_notes_b1.htm)** imagesCACJ4P1D.jpg | ***Classification & Diversity of Life*****Standard 7:**Students shall demonstrate an understanding that organisms are diverse.  | **CDL.7.B.20  Identify** the symmetry of organisms: * **radial**
* **bilateral**
* **asymmetrical**

**CDL.7.B.21**   **Compare and contrast** the major invertebrate classes according to their nervous, respiratory, excretory, circulatory, and digestive systems .  |  |
| [***http://biologyjunction.com/images/dancingdot4.gifUnit Study Guide***](http://biologyjunction.com/study_guides_bi.htm) | ***http://biologyjunction.com/images/dancingdot4.gif***[***Practice Test for Chapter***](http://biologyjunction.com/quizzes.htm) |
| **3 Days** | ***Complex Invertebrates***  | ***Chapter 35*** [**Mollusks**](http://biologyjunction.com/mollusk_notes_b1.htm)**&**     [**Annelids**](http://biologyjunction.com/annelid%20notes%20b1.htm)1234.bmp | ***Classification & Diversity of Life*****Standard 7:**Students shall demonstrate an understanding that organisms are diverse.  | **CDL.7.B.20Identify** the symmetry of organisms: * **radial**
* **bilateral**
* **asymmetrical**

**CDL.7.B.21Compare and contrast** the major invertebrate classes according to their nervous, respiratory, excretory, circulatory, digestive, reproductive and integumentary systems.  |  |
| [***http://biologyjunction.com/images/dancingdot4.gifChapter Study Guide***](http://biologyjunction.com/study_guides_bi.htm) | ***http://biologyjunction.com/images/dancingdot4.gif***[***Practice Test for Chapter***](http://biologyjunction.com/quizzes.htm) |
| **2 Days** | ***Complex Invertebrates***  | ***Chapters 36 & 37***[**Arthropods**](http://biologyjunction.com/arthropod_notes_b1.htm) **&** [**Insects**](http://biologyjunction.com/insect_notes_b1.htm) imagesCAETOZ1B.jpg | ***Classification & Diversity of Life*****Standard 7:**Students shall demonstrate an understanding that organisms are diverse. | **CDL.7.B.20   Identify** the symmetry of bilateral organisms.**CDL.7.B.21**  **Compare and contrast** the major invertebrate classes according to their nervous, respiratory, excretory, circulatory, digestive, reproductive and integumentary systems.  |  |
| [***http://biologyjunction.com/images/dancingdot4.gifUnit Study Guide***](http://biologyjunction.com/study_guides_bi.htm) | ***http://biologyjunction.com/images/dancingdot4.gif***[***Practice Test for Unit***](http://biologyjunction.com/quizzes.htm) |
| **2 Days** | ***Complex Invertebrates***  | ***Chapter 38*** [**Echinoderms**](http://biologyjunction.com/echinoderm_notes.htm) **&** [**Chordates**](http://biologyjunction.com/chordates.htm) imagesCA0QA4GQ.jpg | ***Classification & Diversity of Life*****Standard 7:**Students shall demonstrate an understanding that organisms are diverse.  | **CDL.7.B.20Identify** the symmetry of organisms: * **radial**
* **bilateral**

**CDL.7.B.21Compare and contrast** the major invertebrate classes according to their nervous, respiratory, excretory, circulatory, digestive, reproductive and integumentary systems.  |  |
| [***http://biologyjunction.com/images/dancingdot4.gifChapter Study Guide***](http://biologyjunction.com/study_guides_bi.htm) | ***http://biologyjunction.com/images/dancingdot4.gif***[***Practice Test for Chapter***](http://biologyjunction.com/quizzes.htm) |
| ***VERTEBRATES***  |
| **2 Days** | **Vertebrates** | ***Chapters 39 & 40***[**Fish**](http://biologyjunction.com/fish_notes_bi.htm) **&** [**Amphibians**](http://biologyjunction.com/amphibian_notes_bi.htm)**imagesCAJ4GSV3.jpg** | ***Classification & Diversity of Life*****Standard 7:**Students shall demonstrate an understanding that organisms are diverse. | **CDL.7.B.2Differentiate** the characteristics of the kingdom **Animalia.** **CDL.7.B.8Compare and contrast** life cycles (sexual & metamorphosis) of vertebrates. **CDL.7.B.22**   **Compare and contrast** the major vertebrate classes according to their nervous, respiratory, excretory, circulatory, digestive, reproductive and integumentary systems.  |  |
| [***http://biologyjunction.com/images/dancingdot4.gifUnit Study Guide***](http://biologyjunction.com/study_guides_bi.htm) | ***http://biologyjunction.com/images/dancingdot4.gif***[***Practice Test for Unit***](http://biologyjunction.com/quizzes.htm) |
| **2 Days** | ***Vertebrates***  | ***Chapters 40 & 41***[**Reptiles**](http://biologyjunction.com/reptile_notes_bi.htm) **&** [**Birds**](http://biologyjunction.com/bird_notes_bi.htm)imagesCAEE6X3P.jpg | ***Classification & Diversity of Life*****Standard 7:**Students shall demonstrate an understanding that organisms are diverse.  | **CDL.7.B.2 Differentiate** the characteristics of the kingdom Animalia. **CDL.7.B.8Compare and contrast** life cycles of familiar organisms * **sexual reproduction**
* **asexual reproduction**
* **metamorphosis**

**CDL.7.B.22Compare and contrast** the major vertebrate classes according to their nervous, respiratory, excretory, circulatory, digestive, reproductive and integumentary systems.  |   |
| [***http://biologyjunction.com/images/dancingdot4.gifUnit Study Guide***](http://biologyjunction.com/study_guides_bi.htm) | ***http://biologyjunction.com/images/dancingdot4.gif***[***Practice Test for Unit***](http://biologyjunction.com/quizzes.htm) |
| **2 Days** | ***Vertebrates***  | ***Chapter 42***[**Mammals**](http://biologyjunction.com/mammals%20notes%20bi.htm) imagesCAZQGA93.jpg | ***Classification & Diversity of Life*****Standard 7:**Students shall demonstrate an understanding that organisms are diverse.  | **CDL.7.B.2Differentiate** the characteristics of the kingdom Animalia.**CDL.7.B.8** **Compare and contrast** life cycles of familiar organisms.**CDL.7.B.22**   **Compare and contrast** the major vertebrate classes according to their nervous, respiratory, excretory, circulatory, digestive, reproductive and integumentary systems.  |  |
| [***http://biologyjunction.com/images/dancingdot4.gifChapter Study Guide***](http://biologyjunction.com/study_guides_bi.htm) | ***http://biologyjunction.com/images/dancingdot4.gif***[***Practice Test for Chapter***](http://biologyjunction.com/quizzes.htm) |
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| ***Standards for all Labs:***  | NS.13.B.1Collect and analyze scientific data using appropriate mathematical calculations, figures, and tables  | NS.13.B.2Use appropriate equipment and *technology* as tools for solving problems (e.g., microscopes, centrifuges, flexible arm cameras, computer software and hardware)  |

 |
| **End of Year !!!!** |