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| --- | --- | --- | --- | --- | --- | --- |
|  | **Standards** | **Cross Cutting Concepts** | | **Core Ideas** | **Science and Engineering Practices** | **Anchoring Phenomenon** |
| **1st TRIMESTER** | **Patterns in Living Systems**   |  | | --- | | **SB1.**a,c,d,e; **SB4.**a,b;  **SB5.b** |   **Structure & Function of Molecular Genetics**   |  | | --- | | **SB1.**a,b,c; **SB2.**a,b,c; **SB3.**c; **SB4.**c; **SB6.**a,c |   **Patterns of Heredity & Selection**   |  | | --- | | **SB1.**b; **SB2.**b; **SB3.**a,b,c; **SB5.**a,e; **SB6.**b,d |   **Stability & Change in Populations Over Time**   |  | | --- | | **SB1.**a; **SB4.**a,c; **SB5.**a,e;  **SB6.**a,b,c,d,e |   **Stability & Change in Ecosystems**   |  | | --- | | **SB1.**e; **SB2.**c; **SB5.**a,b,c,d,e; **SB6.**a,b |   **Sickle Cell Capstone**  **All Biology GSE Standards** | | |  |  | | --- | --- | |  | | |  Patterns   Matter and energy   Structure and function |  |  | | --- | |    Structure and function   Systems and system models   Cause and effect |  |  | | --- | |    Patterns   Scale, proportion, and quantity   Systems and system models |    Cause and effect   Stability and change   Patterns   |  | | --- | |    Scale, proportion, and quantity   Matter and energy   Stability and change |   All | |  |  |  |  |  | | --- | --- | --- | --- | --- | | |  |  |  |  | | --- | --- | --- | --- | |  Evolution   Endosymbiosis   Photosynthesis   Cellular respiration   Kingdoms and clades   Cell organelles (structure and function)   Cell membrane   Cellular transport   Macromolecules   |  |  |  | | --- | --- | --- | |  Cell structures and organelles   Cellular reproduction (binary fission, mitosis, meiosis)   Macromolecules   Cancer   Structure of DNA   DNA replication   Synthesizing proteins   Gene mutations   Enzymes   Viruses vs living organisms   |  |  | | --- | --- | |  Sexual reproduction (binary fission, mitosis, meiosis)   Mendel’s laws   Karyotypes   Chromosomal mutations   Dihybrid crosses   Non-Mendelian genetics   |  | | --- | |  Evolution of viruses   Viruses vs living organisms   Antibiotic resistance   Genetic drift   Speciation   Pattern of biodiversity   Speciation   Fossil evidence   Cell structures and organelles   Photosynthesis   Cellular respiration   Biotechnology   Biodiversity (population size, carrying capacity, limiting factors, keystone species)   Energy flow   Cycling of matter   Environmental stability and change   Ecosystems   Diversity and speciation   Evolution  All | | | | | | |  | | --- | |  | | ● Construct explanations  ● Engage in argument from evidence  ● Plan & carry out Investigations  ● Develop & use models | |  |  | | --- | | ● Develop and use models  ● Engage in argument from evidence  ● Construct explanations  ● Ask questions |  |  | | --- | | ● Use mathematics and computational thinking  ● Ask questions  ● Engage in argument from evidence  ● Construct explanations  ● Engage in argument from evidence  ● Analyze and interpret data  ● Develop and use models | | ● Plan and carry out investigations  ● Analyze and interpret data  ● Construct explanations  ● Develop and use models  ● Engage in argument from evidence | |   All | |  | | --- | | Protists are a challenging group to classify.  *Teacher Background:* <https://goo.gl/acXhSK> |  |  | | --- | | Sickle cell disease may be reversed by gene therapy.  *Teacher Background:* <https://goo.gl/Q7FQvX> |  |  | | --- | | Siblings do not look like each other or their parents. |  |  | | --- | | Antibiotics use may lead to resistance in bacteria.  *Teacher Background:* <https://goo.gl/sFi9h1>  Human activities can cause major shifts in ecosystems.  *Teacher Background:* <https://goo.gl/0s2RjV> |  |  | | --- | | Write a scientific paper explaining the causes of Sickle cell anemia and its prognosis. | |
| **2nd TRIMESTER** |
| **3rd TRIMESTER** |



**Laurens County Schools Biology Curriculum Map**



(15 days)