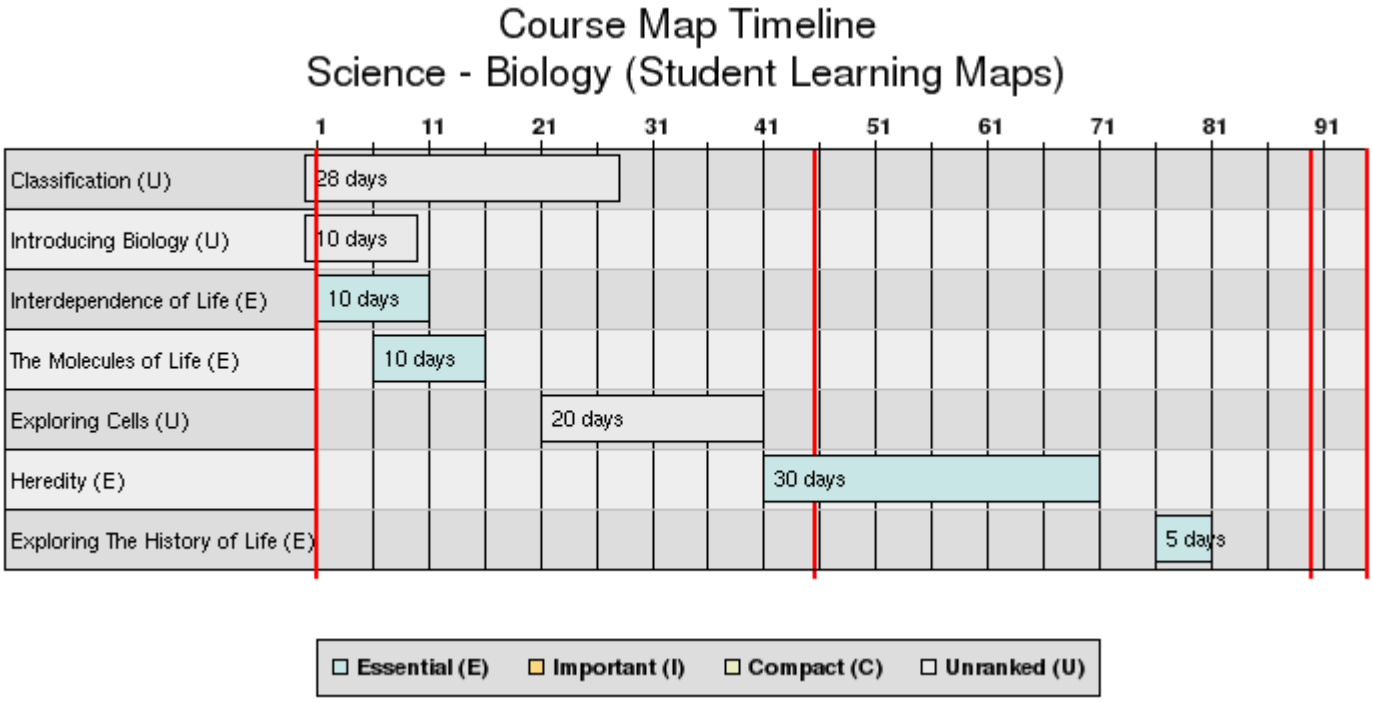
Folder: Science

Group/District: PENNSYLVANIA



Curriculum: COLUMBIA BOROUGH SD Curriculum PENNSYLVANIA

Course: Science - Biology (Student Learning Maps) Date: January 23, 2014 ET

Teacher / Team Name: Ohrel

Topic: Classification Days: 28

Subject(s): Science Grade(s): 10th

Key Learning:

Oranisms are grouped by similar traits and physiological features.

Unit Essential Question(s):

How are organisms classified?

Concept: **Prokaryotes and Viruses**	Concept: **Protists**	Concept: **Fungi**
Lesson Essential Question(s): Where did life begin? (A) What are three physical features that classify prokaryotes? (A) What is a virus? (A)	Lesson Essential Question(s): What are the characteristics that all protist have? (A) How do protists move? (A) Why is the taxonomy of protists still changing? (A)	Lesson Essential Question(s): What is the basic structure of a fungus? (A) What are some fungal diseases? (A)
Vocabulary: Archaea, Bacteria, Binary fission, Endospores, Lytic Cycle, Lysogenic Cycle, Retrovirus, Vaccine	Vocabulary: Protists, Algae, Protozoans, Zooflagellates, Pseudopodia, Ciliates, Plasmodium, Sporangia, Slime Molds, Plankton, Euglenoids, Seaweed,	Vocabulary: Hyphae, Mycelium, Spores, Yeasts, Mold, Lichen, Mycorrhizae

Curriculum: COLUMBIA BOROUGH SD Curriculum
PENNSYLVANIA

Course: Science - Biology (Student Learning Maps)
Date: January 23, 2014 ET

Teacher / Team Name: Ohrel

Topic: Classification
Days: 28

Subject(s): Science
Grade(s): 10th

Concept: Plant Diversity	Concept: Invertebrate Diversity	Concept: Arthropods
Lesson Essential Question(s): What is plant diversity? (A) What structures aid in plant nutrition and support? (A) What classifies a flowering plant? (A) What are the major control systems in plants? (A)	Lesson Essential Question(s): What are the different types of invertebrates? (A) What are the four general characteristics of animals? (A) How are vertebrate and invertebrates differnt? (A)	Lesson Essential Question(s): What are the general characteristics of an arthropod? (A) What are the main groups of arthropods? (A)
Vocabulary: Cuticle, vascular tissue, Stomata, Gametophyte, Sporophyte, Gymnosperms, Angiosperms, Pollen, Seeds, Flower, Fruit, Carpal, Stamen, Xylem, Phloem, Cortex, Transpiration, Phototropism, Thigmotropism, Gravitropism	Vocabulary: Larva, Metamorphosis, Sponge, Sessile, Cnidarians, Polyp, Medusa, Symmetry, Mollusks, Worms, Echinoderms	Vocabulary: Head, Thorax, Abdomen, Exoskeleton, Jointed Appendages, Crustaceans, Arachnids, Insects, Molting, Metamorphosis, Entomology

Concept: Fishes and Amphibians	Concept: Reptiles and Birds	Concept: Mammals
Lesson Essential Question(s): What is a chordate? (A) What are the main groups of vertebrates? (A) What makes sharks different from bony fish? (A)	Lesson Essential Question(s): (A) What are the three main characteristics of amniotes? (A) What are the general characteristics of reptiles? (A) What are the three groups of modern reptiles? (A) (A)	Lesson Essential Question(s): (A) What are the general characteristics of mammamls? (A) What is the most widely accepted hypothesis for the origin of mammals? (A) What are the characteristics of the three main groups of mammals? (A)
Vocabulary: Operculum, Swim bladder, Cartilaginous fish, Bony Fish, Lateral Line	Vocabulary: Amniote, Ectotherm, Endotherm, Scale, Amniotic Egg	Vocabulary: Mammal, Monotreme, Marsupial, Placental Mammal

Additional Information:

Attached Document(s):

Vocab Report for Topic: Classification Days: 28
Subject(s): Science Grade(s): 10th

Concept:

Prokaryotes and Viruses

Archaea -
Bacteria -
Binary fission -
Endospores -
Lytic Cycle -
Lysogenic Cycle -
Retrovirus -
Vaccine -

Concept:

Protists

Protists -
Algae -
Protozoans -
Zooflagellates -
Pseudopodia -
Ciliates -
Plasmodium -
Sporangia -
Slime Molds -
Plankton -
Euglenoids -
Seaweed -
-

Concept:

Fungi

Hyphae -
Mycelium -
Spores -
Yeasts -
Mold -
Lichen -
Mycorrhizae -

Concept:

Plant Diversity

Vocab Report for Topic: Classification Days: 28
Subject(s): Science Grade(s): 10th

Cuticle -
vascular tissue -
Stomata -
Gametophyte -
Sporophyte -
Gymnosperms -
Angiosperms -
Pollen -
Seeds -
Flower -
Fruit -
Carpal -
Stamen -
Xylem -
Phloem -
Cortex -
Transpiration -
Phototropism -
Thigmotropism -
Gravitropism -

Concept:

Invertebrate Diversity

Larva -
Metamorphosis -
Sponge -
Sessile -
Cnidarians -
Polyp -
Medusa -
Symmetry -
Mollusks -
Worms -
Echinoderms -

Concept:

Arthropods

Head -
Thorax -
Abdomen -
Exoskeleton -
Jointed Appendages -
Crustaceans -
Arachnids -
Insects -
Molting -

Vocab Report for Topic: Classification Days: 28
Subject(s): Science Grade(s): 10th

Metamorphosis -
Entomology -

Concept:

Fishes and Amphibians

Operculum -
Swim bladder -
Cartilaginous fish -
Bony Fish -
Lateral Line -

Concept:

Reptiles and Birds

Amniote -
Ectotherm -
Endotherm -
Scale -
Amniotic Egg -

Concept:

Mammals

Mammal -
Monotreme -
Marsupial -
Placental Mammal -

Curriculum: COLUMBIA BOROUGH SD Curriculum | PENNSYLVANIA

Course: Science - Biology (Student Learning Maps) | Date: January 23, 2014 ET

Topic: Exploring Cells | Days: 20

Subject(s): Science | Grade(s): 10th

Key Learning: **Cell structure and function relate to the capture, storage, and transfer of energy in systems.**

Unit Essential Question(s): **How do cell structure and function relate to the capture, storage, and transfer of energy in systems?**

Concept: Cellular Energy	Concept: The Cell's Environment, Homeostasis, and Transport	Concept: Types of Cells, Organelles, and Their Functions
3.1.10.A, 3.1.10.B, 3.1.10.C, 3.1.10.E, 3.2.10.A, 3.2.10.B, 3.2.10.C, 3.3.10.B, S11.B.1.1.1, S11.B.1.1.2, S11.B.1.1.3	3.1.10.A, 3.1.10.B, 3.1.10.C, 3.1.10.E, 3.2.10.A, 3.2.10.B, 3.2.10.C, 3.3.10.B, S11.B.1.1.1, S11.B.1.1.2, S11.B.1.1.3	3.1.10.A, 3.1.10.B, 3.1.10.C, 3.1.10.E, 3.2.10.A, 3.2.10.B, 3.2.10.C, 3.3.10.B, S11.B.1.1.1, S11.B.1.1.2
Lesson Essential Question(s): How is energy transferred at a molecular level within a cell and how do the structures that handle these molecules carry out their functions.? (A) How are photosynthesis and respiration complementary? (A) How are photosynthetic organisms able to trap energy and convert it into a form useful for cellular activities? (A)	**Lesson Essential Question(s):** How is the transport of materials through the cell membrane used to maintain homeostasis? (A)	**Lesson Essential Question(s):** What are the basic differences and similarities between plant and animal cells? (A) Why is cell specialization important to multicellular organisms? (A)
Vocabulary: Photosynthesis, Cellular respiration, Mitochondria, Chloroplast, Aerobic respiration, Anaerobic respiration, Fermentation, ATP/ADP, Calvin cycle, Kreb cycle, Glycolysis, Electron transport chain, Photosystem, Metabolism, Thylacoid, Light Reactions, Dark Reactions, Wavelength, Pigments,	**Vocabulary:** Osmosis, Diffusion, Active transport, Passive transport, Hypotonic solution, Isotonic solution, Hypertonic solution, Equilibrium, Selectively Permeable Membrane	**Vocabulary:** Cell organelles, Cell theory, Cytoplasm, Cell Wall, Plasma Membrane, Prokaryotic Cell, Eukaryotic Cell, Nucleus, Phospholipid Bilayer, Nuclear membrane, Nucleolus, Ribosomes, Endoplasmic Reticulum, Golgi Bodies, Vacuoles, Lysosomes, Chloroplast, Mitochondria, ATP

Topic: Exploring Cells Days: 20
Subject(s): Science Grade(s): 10th

Concept:	Concept:	Concept:
Cell Reproduction 3.1.10.A, 3.1.10.B, 3.1.10.C, 3.1.10.E, 3.2.10.A, 3.2.10.B, 3.2.10.C, 3.3.10.A, 3.3.10.B, S11.B.1.1.1, S11.B.1.1.2, S11.B.1.1.3, S11.B.2.2.2	**The Chemical Basis of Life**	
Lesson Essential Question(s): What are the similarities and differences between mitosis and meiosis? (A) How do the phases of the cell cycle relate to cell division? (A) How does the alignment of chromosomes lead to genetic variability during meiosis? (A)	Lesson Essential Question(s): What is the structure of an atom and how are they bonded together? (A) What are the most common elelents in living things? (A) How does life depend on the unique qualities of water? (A)	Lesson Essential Question(s): (A)
Vocabulary: Stages of mitois, Stages of meiosis, Cell cycle, Chromosomes, Homologous pairs, Chromatin, Crossing over, Chromatid, Centromere, Asexual Reproduction, Sexual Reproduction, Spindle, Benign Tumor, Malignant Tumors, Homologous Chromosomes, Karyotype, Sex Chromosomes, Diploid, Haploid, Gametes, Fertilization, Zygote, Crossing Over,	Vocabulary: Matter, Element, Compound, Atom, Proton, Neutron, Nucleus, Atomic Number, Isotope, , Ionic Bond, Ion, Covalent Bond, Molecule, Chemical Reaction, Reactant, Product, Polar Molecules, Hydrogen Bond, Cohesion, Adhesion, Solution, Solvent, Solute,	Vocabulary:

Additional Information:

Attached Document(s):

Vocab Report for Topic: Exploring Cells Days: 20
Subject(s): Science Grade(s): 10th

Concept: Cellular Energy

Photosynthesis -
Cellular respiration -
Mitochondria -
Chloroplast -
Aerobic respiration -
Anaerobic respiration -
Fermentation -
ATP/ADP -
Calvin cycle -
Kreb cycle -
Glycolysis -
Electron transport chain -
Photosystem -
Metabolism -
Thylacoid -
Light Reactions -
Dark Reactions -
Wavelength -
Pigments -
-

Concept: The Cell's Environment, Homeostasis, and Transport

Osmosis -
Diffusion -
Active transport -
Passive transport -
Hypotonic solution -
Isotonic solution -
Hypertonic solution -
Equilibrium -
Selectively Permeable Membrane -

Concept: Types of Cells, Organelles, and Their Functions

Cell organelles -
Cell theory -
Cytoplasm -
Cell Wall -
Plasma Membrane -

Prokaryotic Cell -
Eukaryotic Cell -
Nucleus -
Phospholipid Bilayer -
Nuclear membrane -

Vocab Report for Topic: Exploring Cells Days: 20
Subject(s): Science Grade(s): 10th

Nucleolus -
Ribosomes -
Endoplasmic Reticulum -
Golgi Bodies -
Vacuoles -
Lysosomes -
Chloroplast -
Mitochondria -
ATP -

Concept: Cell Reproduction

Stages of mitois -
Stages of meiosis -
Cell cycle -
Chromosomes -
Homologous pairs -
Chromatin -
Crossing over -
Chromatid -
Centromere -
Asexual Reproduction -
Sexual Reproduction -
Spindle -
Benign Tumor -
Malignant Tumors -
Homologous Chromosomes -
Karyotype -
Sex Chromosomes -
Diploid -
Haploid -
Gametes -
Fertilization -
Zygote -
Crossing Over -
-

Concept:

The Chemical Basis of Life

Matter -
Element -
Compound -
Atom -
Proton -
Neutron -
Nucleus -
Atomic Number -
Isotope -

Vocab Report for Topic: Exploring Cells Days: 20
Subject(s): Science Grade(s): 10th

-
Ionic Bond -
Ion -
Covalent Bond -
Molecule -
Chemical Reaction -
Reactant -
Product -
Polar Molecules -
Hydrogen Bond -
Cohesion -
Adhesion -
Solution -
Solvent -
Solute -
-

Curriculum: COLUMBIA BOROUGH SD Curriculum | PENNSYLVANIA

Course: Science - Biology (Student Learning Maps) | Date: January 23, 2014 ET

Topic: Exploring The History of Life | Days: 5

Subject(s): Science | Grade(s): 10th

Key Learning: **Classification is used to show the diversity of organisms and the relationships between them.**

Unit Essential Question(s): **Why and how are organisms classified?**

Concept: Evolutionary Classification	Concept: 6 Kingdom Classification	Concept: Biodiversity
3.1.10.A, 3.1.10.B, 3.1.10.C, 3.2.10.A, 3.2.10.B, 3.3.10.A, 3.3.10.B, S11.B.1.1.1, S11.B.1.1.2	3.1.10.A, 3.1.10.B, 3.1.10.C, 3.2.10.A, 3.2.10.B, 3.3.10.A, 3.3.10.B, S11.B.1.1.1, S11.B.1.1.2	3.1.10.A, 3.1.10.B, 3.1.10.C, 3.2.10.A, 3.2.10.B, 3.3.10.A, 3.3.10.B, S11.B.1.1.1, S11.B.1.1.2
Lesson Essential Question(s): How does phylogeny relate to classification? (A)	Lesson Essential Question(s): What criteria are used to classify organisms? (A)	Lesson Essential Question(s): What role does the classification of organisms play in the study of biodiversity? (A)
Vocabulary: Dichotomous key, Binomial nomenclature, Phylogeny, Taxonomy, Phylogenetic tree	Vocabulary: Hierarchy of Classification, Prokaryote, Eukaryote, Species, Taxon, Extinction	Vocabulary: Biodiversity, Species, Endemic, Island biogeography

Additional Information:

Attached Document(s):

Vocab Report for Topic: Exploring The History of Life Days: 5
Subject(s): Science Grade(s): 10th

Concept: Evolutionary Classification

Dichotomous key -
Binomial nomenclature -
Phylogeny -
Taxonomy -
Phylogenetic tree -

Concept: 6 Kingdom Classification

Hierarchy of Classification -
Prokaryote -
Eukaryote -
Species -
Taxon -
Extinction -

Concept: Biodiversity

Biodiversity -
Species -
Endemic -
Island biogeography -

Topic: Heredity
Days: 30
Subject(s): Science
Grade(s): 10th

Key Learning: **Biological traits are passed on to successive generations.**

Unit Essential Question(s): **How are traits passed from generation to generation?**

Concept: DNA and the Language of Life	Concept: RNA - Protein Synthesis	Concept: Patterns of Inheritance
3.1.10.A, 3.1.10.B, 3.1.10.C, 3.2.10.B, 3.2.10.C, 3.3.10.C, S11.B.1.1.1, S11.B.1.1.2, S11.B.1.1.3, S11.B.2.1.2, S11.B.2.2.1	3.1.10.A, 3.1.10.B, 3.1.10.C, 3.1.10.E, 3.2.10.A, 3.2.10.C, 3.3.10.B, 3.3.10.C, S11.B.1.1.1, S11.B.1.1.2, S11.B.1.1.3, S11.B.2.1.2, S11.B.2.2.1	3.1.10.A, 3.1.10.B, 3.1.10.C, 3.1.10.E, 3.2.10.A, 3.2.10.B, 3.2.10.C, 3.3.10.B, 3.3.10.C, S11.B.1.1.1, S11.B.1.1.2, S11.B.1.1.3, S11.B.2.1.2, S11.B.2.1.3, S11.B.2.2.3, S11.B.3.3.3
Lesson Essential Question(s): How does the structure of DNA code for traits? (A) What are the building blocks of DNA? (A) What are the rules for base pairing? (A)	**Lesson Essential Question(s):** What is protein synthesis? (A) What ia a gene mutation? (A) How are amino acids coded? (A)	**Lesson Essential Question(s):** How are inherited traits passed on from parent to offspring? (A) How do Mendel\'s laws explain the role of meiosis in reproductive variability? (A)
Vocabulary: DNA, Genetic code, Codon, Nucleotide, Replication, Nitrogenous bases, Phosphate group, 5-Carbon sugar, Double helix, Gene, Allele, Chromosome, RNA, Pyrimidines, Purines,	**Vocabulary:** RNA, mRNA, tRNA, rRNA, anticodon, transcription, translation, ribosome, Introns, Exons	**Vocabulary:** Allele, Gene, Heredity, Monohybrid, Dihybrid, Genotype, Phenotype, Homozygous, Heterozygous, Dominant, Recessive, Probability, Punnett Square, Hybrid

Topic: Heredity
Days: 30
Subject(s): Science
Grade(s): 10th

Concept: Human Genetics	Concept: Frontiers in Genetics	Concept: Variations in Inheritance Patterns
3.1.10.A, 3.1.10.B, 3.1.10.C, 3.1.10.E, 3.2.10.A, 3.2.10.B, 3.2.10.C, 3.3.10.B, 3.3.10.C, S11.B.1.1.1, S11.B.1.1.2, S11.B.1.1.3, S11.B.2.1.2, S11.B.2.2.1, S11.B.2.2.3	3.1.10.A, 3.1.10.B, 3.1.10.C, 3.1.10.E, 3.2.10.A, 3.2.10.B, 3.2.10.C, 3.6.10.A, 3.8.10.A, 3.8.10.B, 3.8.10.C, S11.B.2.1.3, S11.B.3.3.3	
Lesson Essential Question(s): What is the human genome project? (A) How does chromosome damage occur? (A) What is a pedigree and how is it used? (A)	**Lesson Essential Question(s):** How is DNA technology applied and used in our society today? (A) What are the procedures used in cloning? (A)	**Lesson Essential Question(s):** What are multiple alleles? (A) Explain how alleles interact in intermediate inheritance? (A) How does polygenic inheritance result in a wide range of phenotypes? (A) How are phenotypes affected by environmental conditions? (A)
Vocabulary: Substitution, Chromosomal errors, Genome, Nondysjunction, Translocation, Deletion, Inversion, Pedigree, Carrier,	**Vocabulary:** Recombinant DNA, Gel electrophoresis, Restriction enzyme, Cloning, Biotechnology, Plasmid, Gel Electrophoresis, Genetic Marker, DNA Fingerprinting, Stem Cells	**Vocabulary:** Intermediate Inheritance, Codominace, Polygenic Inheritance, , Sex-linked Gene,

Additional Information:

Attached Document(s):

Vocab Report for Topic: Heredity Days: 30
Subject(s): Science Grade(s): 10th

Concept:

DNA and the Language of Life

DNA -
Genetic code -
Codon -
Nucleotide -
Replication -
Nitrogenous bases -
Phosphate group -
5-Carbon sugar -
Double helix -
Gene -
Allele -
Chromosome -
RNA -
Pyrimidines -
Purines -
-

Concept: RNA - Protein Synthesis

RNA -
mRNA -
tRNA -
rRNA -
anticodon -
transcription -
translation -
ribosome -
Introns -
Exons -

Concept:

Patterns of Inheritance

Allele -
Gene -
Heredity -
Monohybrid -
Dihybrid -
Genotype -
Phenotype -
Homozygous -
Heterozygous -
Dominant -
Recessive -

Vocab Report for Topic: Heredity Days: 30
Subject(s): Science Grade(s): 10th

Probability -
Punnett Square -
Hybrid -

Concept:

Human Genetics

Substitution -
Chromosomal errors -
Genome -
Nondysjunction -
Translocation -
Deletion -
Inversion -
Pedigree -
Carrier -
-

Concept:

Frontiers in Genetics

Recombinant DNA -
Gel electrophoresis -
Restriction enzyme -
Cloning -
Biotechnology -
Plasmid -
Gel Electrophoresis -
Genetic Marker -
DNA Fingerprinting -
Stem Cells -

Concept:

Variations in Inheritance Patterns

Intermediate Inheritance -
Codominace -
Polygenic Inheritance -
-
Sex-linked Gene -
-

Curriculum: COLUMBIA BOROUGH SD Curriculum
PENNSYLVANIA

Course: Science - Biology (Student Learning Maps)
Date: January 23, 2014 ET

Topic: Interdependence of Life
Days: 10

Subject(s): Science
Grade(s): 10th

Key Learning:
All living things are interdependent with each other and the nonliving environment.

Unit Essential Question(s): **What relationships exist between living things and their environment?**

Concept: **Population Ecology** 3.1.10.A, 3.1.10.B, 3.1.10.C, 3.2.10.C, 4.6.10.B, 4.7.10.B, 4.7.10.C, S11.B.3.1.2, S11.B.3.1.3, S11.B.3.1.5, S11.B.3.2.1, S11.B.3.2.2, S11.B.3.2.3	Concept: **Ecosystems and Conservation Biology** 3.1.10.A, 3.1.10.B, 3.1.10.C, 3.2.10.C, 4.6.10.B, S11.B.3.1.2, S11.B.3.2.1, S11.B.3.2.3	Concept: **The Biosphere**
Lesson Essential Question(s): What causes populations to fluctuate? (A) What are the general patterns of fluctuation? (A) How do limiting factors relate to the carrying capacity of a population? (A)	Lesson Essential Question(s): How do matter and energy travel through the commmunity? (A) How does biodiversity impact the stability within the ecosystem? (A)	Lesson Essential Question(s): What are the five levels of ecological studies? (A) How does climate determine global patterns in the biosphere? (A) What are the key abiotic factors? (A)
Vocabulary: S Curve, J Curve, Limiting factor, Carrying capacity, Exponential growth, Population Density, Niche, Predation	Vocabulary: Carbon cycle, Nitrogen cycle, Water cycle, Phosphorous cycle, Producer, Consumer, Decomposer, Food Chain, Herbivore, Carnivore, Omnivore, Biomass, Energy Pyramid, Deforestation, Greenhouse Effect, Pollution, Ozone, Biodiversity	Vocabulary: Ecology, Abiotic Factors, Biotic Factors, Population, Community, Ecosystem, Biosphere, Habitat, Biomes,

Additional Information:

Attached Document(s):

Vocab Report for Topic: Interdependence of Life Days: 10
Subject(s): Science Grade(s): 10th

Concept: Population Ecology

S Curve -
J Curve -
Limiting factor -
Carrying capacity -
Exponential growth -
Population Density -
Niche -
Predation -

Concept:

Ecosystems and Conservation Biology

Carbon cycle -
Nitrogen cycle -
Water cycle -
Phosphorous cycle -
Producer -
Consumer -
Decomposer -
Food Chain -

Herbivore -
Carnivore -
Omnivore -
Biomass -
Energy Pyramid -
Deforestation -
Greenhouse Effect -
Pollution -
Ozone -
Biodiversity -

Concept:

The Biosphere

Ecology -
Abiotic Factors -
Biotic Factors -
Population -
Community -
Ecosystem -
Biosphere -
Habitat -

Vocab Report for Topic: Interdependence of Life Days: 10
Subject(s): Science Grade(s): 10th

Biomes -
-

Curriculum: COLUMBIA BOROUGH SD Curriculum | PENNSYLVANIA

Course: Science - Biology (Student Learning Maps) | Date: January 23, 2014 ET

Topic: Introducing Biology | Days: 10

Subject(s): Science | Grade(s): 10th

Key Learning:

Biology explores life from the global to the microscopic scale.

Unit Essential Question(s): What are the major organizational levels of life?

Concept: The Scope of Biology	Concept: The Science of Biology	Concept: The Process of Science
3.1.10.A, 3.1.10.B, 3.2.10.D, 3.3.10.D	3.2.10.D, 3.3.10.A, 3.3.10.D	3.1.10.A, 3.1.10.C, 3.3.10.A, 3.3.10.D
Lesson Essential Question(s): What are the major organizational levels of life? (A) What is diversity? (A) What are the ten themes of biology? (A)	**Lesson Essential Question(s):** What is scientific inquiry? (A) What are the steps of the scientific method? (A) How are scientific models used in understanding ideas? (A)	**Lesson Essential Question(s):** How do scientist study behavior through observation and experiment? (A)
Vocabulary: Biosphere, Ecosystem, Organism, Cell, DNA, Gene, Species, Unicellular, Multicellular, System, Photosynthesis, Producer, Consumer, Homeostasis, Adaptation, Population, Natural Selection, Evolution	**Vocabulary:** Observation, Data, Generalization, Variable, Controlled Experiment, Evidence, Theory, Models, Technology, Hypothesis, Conclusion, Control	**Vocabulary:** Animal Behavior, Immediate Cause, Innate Behavior, Learning, Habituataion, Imprinting, Conditioning, Insight, Territory, Communication, Cooperation

Additional Information:

Attached Document(s):

Vocab Report for Topic: Introducing Biology Days: 10
Subject(s): Science Grade(s): 10th

Concept:

The Scope of Biology

Biosphere -
Ecosystem -
Organism -
Cell -
DNA -
Gene -
Species -
Unicellular -
Multicellular -
System -
Photosynthesis -
Producer -
Consumer -
Homeostasis -
Adaptation -
Population -
Natural Selection -
Evolution -

Concept:

The Science of Biology

Observation -
Data -
Generalization -
Variable -
Controlled Experiment -
Evidence -
Theory -
Models -
Technology -
Hypothesis -
Conclusion -
Control -

Concept:

The Process of Science

Animal Behavior -
Immediate Cause -
Innate Behavior -
Learning -
Habituataion -

Vocab Report for Topic: Introducing Biology Days: 10
Subject(s): Science Grade(s): 10th

Imprinting -
Conditioning -
Insight -
Territory -
Communication -
Cooperation -

Topic: The Molecules of Life
Days: 10
Subject(s): Science
Grade(s): 10th

Key Learning: **The structure of molecules determines their function in living things**

Unit Essential Question(s): **How does the structure of different molecules affect their function in living things?**

Concept: **Carbon is the main ingredient of organic molecules.** 3.1.10.B, 3.1.10.C, 3.1.10.E, 3.2.10.C, 3.3.10.B, S11.B.1.1.1, S11.B.1.1.2	Concept: **Enzymes** 3.1.10.B, 3.1.10.C, 3.1.10.E, 3.2.10.C, 3.3.10.B, S11.B.1.1.1, S11.B.1.1.2	Concept: **Carbohydrates provide fuel and building material.**
Lesson Essential Question(s): What is the structure and function of each macromolecule? (A) How do monomers and polymers relate? (A)	Lesson Essential Question(s): How do enzymes affect activation energy? (A) How is an enzyme\'s shape is important to it\'s function? (A)	Lesson Essential Question(s): What is the basic structure and function of sugars? (A) What are three polysaccharides and their functions? (A)
Vocabulary: Organic compounds, Carbohydrate, Saccharides, Structural formulas, Chemical formulas, Isomer, Lipid, Protein, Amino acid, Nucleic Acid, Nucleotide, Hydrocarbons, Fat, Steroids	Vocabulary: Enzyme, Coenzyme, Active site, Substrate, Catalyst, Activation energy	Vocabulary: Carbohydrates, Monosaccharides, Disaccharides, Polysaccharides, Starch, Glycogen, Cellulose

Concept: **Lipids include fats and steroids**	Concept: **Proteins perform most functions in the cell.**
Lesson Essential Question(s): What are the general characteristics of lipids? (A)	Lesson Essential Question(s): What are the functions of proteins? (A) What is the structure of amino acids (A) What factors influence protein shape? (A)
Vocabulary: Lipid, Fat, Hydrophobic, Saturated Fat, Unsaturated Fat, Steroid, Cholesterol	Vocabulary: Protein, Amino Acid, Polypeptide, Denaturation

Topic: The Molecules of Life Days: 10
Subject(s): Science Grade(s): 10th

Additional Information:
Attached Document(s):

Vocab Report for Topic: The Molecules of Life Days: 10
Subject(s): Science Grade(s): 10th

Concept:

Carbon is the main ingredient of organic molecules.

Organic compounds -
Carbohydrate -
Saccharides -
Structural formulas -
Chemical formulas -
Isomer -
Lipid -
Protein -
Amino acid -
Nucleic Acid -
Nucleotide -
Hydrocarbons -
Fat -
Steroids -

Concept: Enzymes

Enzyme -
Coenzyme -
Active site -
Substrate -
Catalyst -
Activation energy -

Concept: Carbohydrates provide fuel and building material.

Carbohydrates -
Monosaccharides -
Disaccharides -
Polysaccharides -
Starch -
Glycogen -
Cellulose -

Concept: Lipids include fats and steroids

Lipid -
Fat -
Hydrophobic -
Saturated Fat -
Unsaturated Fat -
Steroid -
Cholesterol -

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Concept: Proteins perform most functions in the cell.

Protein -
Amino Acid -
Polypeptide -
Denaturation -