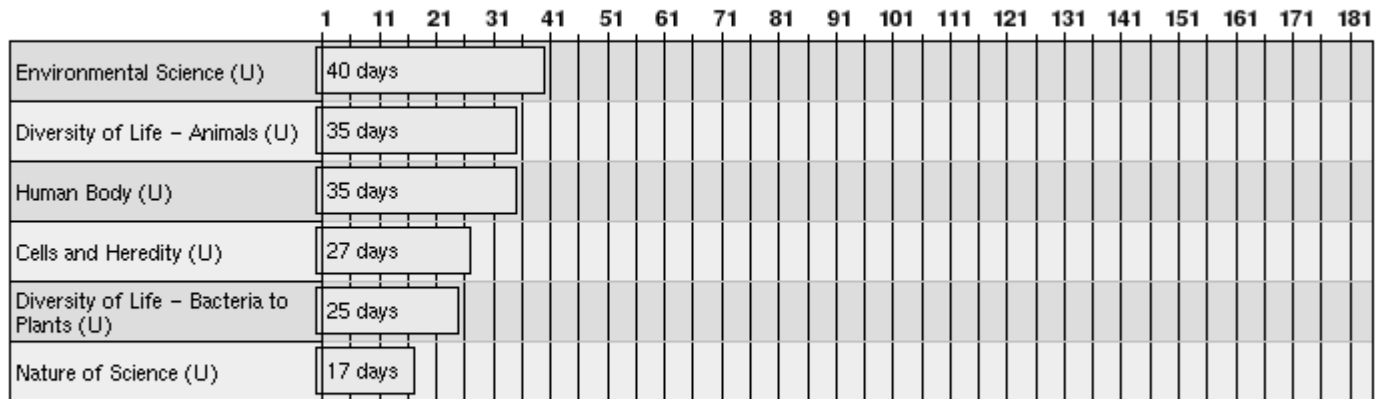


Folder: Science

Group/District: PENNSYLVANIA

Course Map Timeline Science - 7th grade Life Science



Essential (E)
 Important (I)
 Compact (C)
 Unranked (U)

Topic: Cells and Heredity

Days: 27

Subject(s): Science

Grade(s): 7th

Key Learning: All living things are made of cells. Although they are small, cells are complex structures that can regulate the chemicals that enter and exit through their outer layer. Cells divide to create new cells to allow organisms to develop and grow. Genetic material is contained within cells and is passed on to future generations. Occasionally, problems occur during cell division, leading to mutations. Sometimes these mutations can be beneficial to the individual or to the species as a whole.



Unit Essential Question(s):

What is the internal structure of a cell?

How do plant and animal cells differ?

How do cells regulate what goes in and out of the cell membrane?

How do cells divide to create new cells?

How are genes passed from parent to offspring?

How have living things changed over time?



Topic: Cells and Heredity

Days: 27

Subject(s): Science

Grade(s): 7th

<p>Concept: Cell structure and function</p> <p>S8.A.1.1.2 S8.A.1.1.3 S8.A.1.1.4 S8.A.1.2.1 S8.A.1.2.3 S8.A.1.3.1 S8.A.1.3.2 S8.A.2.1.1 S8.A.2.1.2 S8.A.2.1.3 S8.A.2.1.4 S8.A.2.1.5 S8.A.2.2.2 S8.A.2.2.3 S8.A.3.1.2 S8.A.3.2.1 S8.A.3.2.3 S8.B.1.1.1 S8.B.1.1.3 S8.B.1.1.4 S8.B.2.1.1</p>	<p>Concept: Cell processes and energy</p> <p>S8.A.1.1.2 S8.A.1.1.3 S8.A.1.1.4 S8.A.1.2.1 S8.A.1.2.3 S8.A.1.3.1 S8.A.1.3.2 S8.A.2.1.1 S8.A.2.1.2 S8.A.2.1.3 S8.A.2.1.4 S8.A.2.1.5 S8.A.2.2.2 S8.A.2.2.3 S8.A.3.1.2 S8.A.3.2.1 S8.B.1.1.1 S8.B.1.1.4 S8.B.2.1.1 S8.B.2.1.3</p>	<p>Concept: Genetics: The science of heredity</p> <p>S8.A.1.1.2 S8.A.1.1.3 S8.A.1.1.4 S8.A.1.2.1 S8.A.1.2.3 S8.A.1.3.1 S8.A.1.3.2 S8.A.2.1.1 S8.A.2.1.2 S8.A.2.1.3 S8.A.2.1.4 S8.A.2.1.5 S8.A.2.2.2 S8.A.2.2.3 S8.A.3.2.1 S8.B.1.1.1 S8.B.1.1.3 S8.B.2.1.1 S8.B.2.1.3 S8.B.2.2.1 S8.B.2.2.2</p>
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<p>Lesson Essential Question(s): What is cell theory? (A)</p> <p>How have microscopes contributed to scientists understanding of the cell? (A)</p> <p>How is water important to cell function? (A)</p> <p>How do cells move material across the cell membrane? (A)</p>	<p>Lesson Essential Question(s): How does the sun supply the energy that is needed for all living things? (A)</p> <p>What happens during the process of photosynthesis? (A)</p> <p>What happens during the process of respiration? (A)</p> <p>What events take place during cell division? (A)</p> <p>How is cancer related to the cell cycle? (A)</p>	<p>Lesson Essential Question(s): How is the work of Gregor Mendel important to the study of genetics? (A)</p> <p>How does probability play a role in the type of trait that an organism displays? (A)</p> <p>What role do chromosomes play in inheritance? (A)</p> <p>What forms the genetic code? (A)</p> <p>How can mutations affect an organism? (A)</p>
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<p>Vocabulary: cell, microscope, cell theory, organelle, cell wall, cell membrane, nucleus, cytoplasm, mitochondria, endoplasmic reticulum, ribosome, Golgi body, chloroplast, vacuole, lysosome, element, compound, carbohydrate, protein, amino acid, enzyme, lipid, nucleic acid, DNA, RNA, permeable, diffusion, osmosis, passive transport, active transport</p>	<p>Vocabulary: photosynthesis, autotroph, heterotroph, pigment, chlorophyll, respiration, fermentation, cancer, mutation, tumor, cell cycle, replication, mitosis, meiosis</p>	<p>Vocabulary: heredity, trait, genetics, purebred, gene, alleles, dominant, recessive, hybrid, meiosis, Punnett square, phenotype, genotype, homozygous, heterozygous, messenger RNA, transfer RNA</p>
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Topic: Cells and Heredity

Days: 27

Subject(s): Science

Grade(s): 7th

<p>Concept: Modern genetics</p> <p>S8.A.1.1.2 S8.A.1.1.3 S8.A.1.1.4 S8.A.1.2.1 S8.A.1.2.3 S8.A.1.3.1 S8.A.1.3.2 S8.A.2.1.1 S8.A.2.1.2 S8.A.2.1.3 S8.A.2.1.4 S8.A.2.1.5 S8.A.2.2.2 S8.A.2.2.3 S8.B.1.1.3 S8.B.2.1.1 S8.B.2.1.2 S8.B.2.1.3 S8.B.2.1.4 S8.B.2.1.5 S8.B.2.2.1 S8.B.2.2.2</p>	<p>Concept: Changes in Living Things</p> <p>S8.A.1.1.2 S8.A.1.1.3 S8.A.1.1.4 S8.A.1.2.1 S8.A.1.2.3 S8.A.1.3.1 S8.A.1.3.2 S8.A.2.1.1 S8.A.2.1.2 S8.A.2.1.3 S8.A.2.1.4 S8.A.2.1.5 S8.A.2.2.2 S8.A.2.2.3 S8.B.1.1.1 S8.B.1.1.3 S8.B.2.1.1 S8.B.2.1.2 S8.B.2.1.3 S8.B.2.1.5 S8.B.2.2.1 S8.B.2.2.2</p>
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<p>Lesson Essential Question(s): What patterns of inheritance are seen in humans? (A)</p> <p>How can scientists trace the inheritance of traits? (A)</p> <p>What causes genetic disorders? (A)</p> <p>How are genetic disorders diagnosed and treated? (A)</p> <p>What is the goal of the Human Genome Project? (A)</p>	<p>Lesson Essential Question(s): How did Charles Darwin's observations explain differences between similar species? (A)</p> <p>How does natural selection lead to evolution? (A)</p> <p>How do new species form? (A)</p> <p>What information can scientists gather from the fossil record? (A)</p>
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<p>Vocabulary: multiple alleles, sex linked genes, carrier, genetic disorder, pedigree, karyotype, inbreeding, selective breeding, clone, genetic engineering</p>	<p>Vocabulary: species, fossil, adaptation, evolution, scientific theory, natural selection, variation, homologous structures, relative dating, absolute dating, half life, extinct</p>
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Additional Information:

Attached Document(s):

Vocab Report for Topic: Cells and Heredity

Days: 27

Subject(s): Science

Grade(s): 7th

Concept: Cell structure and function

- cell -
- microscope -
- cell theory -
- organelle -
- cell wall -
- cell membrane -
- nucleus -
- cytoplasm -
- mitochondria -
- endoplasmic reticulum -
- ribosome -
- Golgi body -
- chloroplast -
- vacuole -
- lysosome -
- element -
- compound -
- carbohydrate -
- protein -
- amino acid -
- enzyme -
- lipid -
- nucleic acid -
- DNA -
- RNA -
- permeable -
- diffusion -
- osmosis -
- passive transport -
- active transport -

Concept: Cell processes and energy

- photosynthesis -
- autotroph -
- heterotroph -
- pigment -
- chlorophyll -
- respiration -
- fermentation -
- cancer -
- mutation -
- tumor -
- cell cycle -
- replication -
- mitosis -
- meiosis -

Vocab Report for Topic: Cells and Heredity

Days: 27

Subject(s): Science

Grade(s): 7th

Concept: Genetics: The science of heredity

heredity -
trait -
genetics -
purebred -
gene -
alleles -
dominant -
recessive -
hybrid -
meiosis -
Punnett square -
phenotype -
genotype -
homozygous -
heterozygous -
messenger RNA -
transfer RNA -

Concept: Modern genetics

multiple alleles -
sex linked genes -
carrier -
genetic disorder -
pedigree -
karyotype -
inbreeding -
selective breeding -
clone -
genetic engineering -

Concept: Changes in Living Things

species -
fossil -
adaptation -
evolution -
scientific theory -
natural selection -
variation -
homologous structures -
relative dating -
absolute dating -
half life -
extinct -

Topic: Diversity of Life - Animals

Days: 35

Subject(s): Science

Grade(s): 7th

Key Learning: All living things share certain characteristics and have basic survival needs. Scientists classify organisms into groups based on these characteristics. The animal kingdom is made up of a variety of organisms. Simple organisms like sponges, cnidarians and worms, are invertebrates that have simple body plans. Mollusks, arthropods and echinoderms are more complex invertebrates. Phylum Chordata (the vertebrates) are the most complex type of animals. Cold blooded vertebrates include fish, amphibians and reptiles. Birds and mammals are warm blooded vertebrates.



Unit Essential Question(s):

What characteristics do all animals share?

How do vertebrates and invertebrates differ?

How are animals classified into groups?

What are the characteristics of each of the animal phyla?



Topic: Diversity of Life - Animals

Days: 35

Subject(s): Science

Grade(s): 7th

<p>Concept: Sponges, Cnidarians and Worms</p> <p>S8.A.1.1.2 S8.A.1.1.3 S8.A.1.1.4 S8.A.1.2.1 S8.A.1.2.3 S8.A.1.3.1 S8.A.2.1.1 S8.A.2.1.2 S8.A.2.1.3 S8.A.2.1.4 S8.A.2.1.5 S8.A.2.2.2 S8.A.3.3.2 S8.B.1.1.1 S8.B.1.1.2 S8.B.1.1.3 S8.B.2.1.5</p>	<p>Concept: Mollusks, Arthropods and Echinoderms</p> <p>S8.A.1.1.2 S8.A.1.1.3 S8.A.1.1.4 S8.A.1.2.1 S8.A.1.2.3 S8.A.1.3.1 S8.A.2.1.1 S8.A.2.1.2 S8.A.2.1.3 S8.A.2.1.4 S8.A.2.1.5 S8.A.2.2.2 S8.A.3.3.2 S8.B.1.1.1 S8.B.1.1.2 S8.B.1.1.3 S8.B.2.1.5</p>	<p>Concept: Fishes, Amphibians and Reptiles</p> <p>S8.A.1.1.2 S8.A.1.1.3 S8.A.1.1.4 S8.A.1.2.1 S8.A.1.2.3 S8.A.1.3.1 S8.A.2.1.1 S8.A.2.1.2 S8.A.2.1.3 S8.A.2.1.4 S8.A.2.1.5 S8.A.2.2.2 S8.A.3.3.2 S8.B.1.1.1 S8.B.1.1.2 S8.B.1.1.3 S8.B.2.1.5</p>
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<p>Lesson Essential Question(s): How are animals classified? (A)</p> <p>What types of symmetry are seen in animals? (A)</p> <p>What are the characteristics of sponges? (A)</p> <p>What are the characteristics of cnidarians? (A)</p> <p>What are the characteristics of worms? (A)</p> <p>How are animals classified? (A)</p> <p>What types of symmetry are seen in animals? (A)</p> <p>What are the characteristics of sponges? (A)</p> <p>What are the characteristics of cnidarians? (A)</p> <p>What are the characteristics of worms? (A)</p>	<p>Lesson Essential Question(s): What are the characteristics of mollusks? (A)</p> <p>What are the characteristics of arthropods? (A)</p> <p>What are the characteristics of echinoderms? (A)</p> <p>How are insects important to food chains? (A)</p> <p>What methods are used to control pests? (A)</p>	<p>Lesson Essential Question(s): What characteristics do all chordates share? (A)</p> <p>What are the main characteristics shared by all vertebrates? (A)</p> <p>How do vertebrates regulate body temperature? (A)</p> <p>What are the main characteristics of the groups of fishes? (A)</p> <p>What are the characteristics of reptiles? (A)</p> <p>What are the characteristics of amphibians? (A)</p> <p>What can scientists learn from studying fossils? (A)</p>
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<p>Vocabulary: cell, tissue, organ, adaptation, sexual reproduction, asexual reproduction, phylum, vertebrate, invertebrates, bilateral symmetry, radial symmetry, cnardian, polyp, medusa, colony, coral reef, parasite, host, scavenger, larva</p>	<p>Vocabulary: mollusk, gill, arthropod, open circulatory system, gastropod, herbivore, carnivore, bivalve, omnivore, cephalopod, exoskeleton, molting, antenna, crustacean, arachnid, metamorphosis, insect, thorax, abdomen, pupa, food chain, producer, consumer, decomposer, pollination, pesticide, endoskeleton, tube feet</p>	<p>Vocabulary: chordate, notochord, vertebra, ectotherm, endotherm, fish, cartilage, swim bladder, amphibian, tadpole, reptile, amniotic egg, fossil</p>
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Topic: Diversity of Life - Animals

Days: 35

Subject(s): Science

Grade(s): 7th

<p>Concept: Birds and Mammals</p> <p>S8.A.1.1.2 S8.A.1.1.3 S8.A.1.1.4 S8.A.1.2.1 S8.A.1.2.3 S8.A.1.3.1 S8.A.2.1.1 S8.A.2.1.2 S8.A.2.1.3 S8.A.2.1.4 S8.A.2.1.5 S8.A.2.2.2 S8.A.3.3.2 S8.B.1.1.1 S8.B.1.1.2 S8.B.1.1.3 S8.B.2.1.5</p>	<p>Concept: Animal Behavior</p> <p>S8.A.1.1.2 S8.A.1.1.3 S8.A.1.1.4 S8.A.1.2.1 S8.A.1.2.3 S8.A.1.3.1 S8.A.2.1.1 S8.A.2.1.2 S8.A.2.1.3 S8.A.2.1.4 S8.A.2.1.5 S8.A.2.2.2 S8.A.3.3.2 S8.B.1.1.1 S8.B.1.1.2 S8.B.1.1.3 S8.B.2.1.5</p>
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<p>Lesson Essential Question(s): What are the characteristics of birds? (A)</p> <p>How are birds adapted to their environment? (A)</p> <p>How are birds able to fly? (A)</p> <p>What are the characteristics of mammals? (A)</p>	<p>Lesson Essential Question(s): What causes animal behavior? (A)</p> <p>How are learned behaviors and instinct different? (A)</p> <p>How do animals communicate? (A)</p> <p>What types of relationships exist between animals of different species? (A)</p> <p>How does technology help scientists track animals? (A)</p>
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<p>Vocabulary: bird, contour feather, down feather, crop, gizzard, lift, mammal, monotreme, marsupial, gestation, placental mammal</p>	<p>Vocabulary: behavior, stimulus, response, instinct, pheromone, aggression, society, hibernation, migration, transmitter, receiver</p>
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Additional Information:

Attached Document(s):

Vocab Report for Topic: Diversity of Life - Animals

Days: 35

Subject(s): Science

Grade(s): 7th

Concept: Sponges, Cnidarians and Worms

cell -
tissue -
organ -
adaptation -
sexual reproduction -
asexual reproduction -
phylum -
vertebrate -
invertebrates -
bilateral symmetry -
radial symmetry -
cnardian -
polyp -
medusa -
colony -
coral reef -
parasite -
host -
scavenger -
larva -

Concept: Mollusks, Arthropods and Echinoderms

mollusk -
gill -
arthropod -
open circulatory system -
gastropod -
herbivore -
carnivore -
bivalve -
omnivore -
cephalopod -
exoskeleton -
molting -
antenna -
crustacean -
arachnid -
metamorphosis -
insect -
thorax -
abdomen -
pupa -
food chain -
producer -
consumer -
decomposer -
pollination -

Vocab Report for Topic: Diversity of Life - Animals

Days: 35

Subject(s): Science

Grade(s): 7th

pesticide -
endoskeleton -
tube feet -

Concept: Fishes, Amphibians and Reptiles

chordate -
notochord -
vertebra -
ectotherm -
endotherm -
fish -
cartilage -
swim bladder -
amphibian -
tadpole -
reptile -
amniotic egg -
fossil -

Concept: Birds and Mammals

bird -
contour feather -
down feather -
crop -
gizzard -
lift -
mammal -
monotreme -
marsupial -
gestation -
placental mammal -

Concept: Animal Behavior

behavior -
stimulus -
response -
instinct -
pheromone -
aggression -
society -
hibernation -

migration -

Vocab Report for Topic: Diversity of Life - Animals

Days: 35

Subject(s): Science

Grade(s): 7th

transmitter -

receiver -

Topic: Diversity of Life - Bacteria to Plants

Days: 25

Subject(s): Science

Grade(s): 7th

Key Learning: All living things share certain characteristics and have basic survival needs. Scientists classify organisms into groups based on these characteristics. Although viruses share some characteristics with living things, scientists do not consider them to be "living." Bacteria and protists are the simplest types of organisms that show the characteristics of living things. Fungi can be single celled or multicellular organisms. Plants are a diverse group of organisms that require the sun to create the energy they need to survive.



Unit Essential Question(s):

What characteristics are shared by all living things?

Why are viruses not considered to be living organisms?

How are bacteria classified?

How are protists classified?

How are fungi classified?

How are plants classified?



Topic: Diversity of Life - Bacteria to Plants

Days: 25

Subject(s): Science

Grade(s): 7th

<p>Concept: Living Things</p> <p>S8.A.1.1.2 S8.A.1.1.3 S8.A.1.1.4 S8.A.1.2.1 S8.A.1.2.3 S8.A.1.3.1 S8.A.1.3.2 S8.A.2.1.1 S8.A.2.1.2 S8.A.2.1.3 S8.A.2.1.4 S8.A.2.1.5 S8.A.2.2.2 S8.A.2.2.3 S8.A.3.1.4 S8.A.3.2.1 S8.A.3.2.3 S8.A.3.3.2 S8.B.1.1.1 S8.B.1.1.2 S8.B.1.1.3</p>	<p>Concept: Viruses and Bacteria</p> <p>S8.A.1.1.2 S8.A.1.1.3 S8.A.1.1.4 S8.A.1.2.1 S8.A.1.2.3 S8.A.1.3.1 S8.A.1.3.2 S8.A.2.1.1 S8.A.2.1.2 S8.A.2.1.3 S8.A.2.1.4 S8.A.2.1.5 S8.A.2.2.2 S8.A.2.2.3 S8.A.3.2.1 S8.A.3.2.3 S8.B.1.1.1 S8.B.1.1.2 S8.B.1.1.3</p>	<p>Concept: Protists and Fungi</p> <p>S8.A.1.1.2 S8.A.1.1.3 S8.A.1.1.4 S8.A.1.2.1 S8.A.1.2.3 S8.A.1.3.1 S8.A.1.3.2 S8.A.2.1.1 S8.A.2.1.2 S8.A.2.1.3 S8.A.2.1.4 S8.A.2.1.5 S8.A.2.2.2 S8.A.2.2.3 S8.A.3.2.1 S8.A.3.2.3 S8.B.1.1.1 S8.B.1.1.2 S8.B.1.1.3</p>
<p>Lesson Essential Question(s): What characteristics are shared by all living things? (A) What do living things need to survive? (A) How do scientists classify living things? (A) How do prokaryotic and eukaryotic organisms organisms? (A) How do scientists hypothesize that life arose on Earth? (A)</p>	<p>Lesson Essential Question(s): What are the characteristics of viruses? (A) Why are viruses considered non-living? (A) How do viruses affect living things? (A) What are the characteristics of living things? (A) What are the characteristics of a bacterial cell? (A) How do autotrophs and heterotrophs differ? (A) How are bacteria essential to life? (A) How are infectious diseases spread? (A)</p>	<p>Lesson Essential Question(s): What are the characteristics of animal-like protists? (A) What are the characteristics of plant-like protists? (A) What are the characteristics of fungus-like protists? (A) What are the causes of eutrophication and red tides? (A) What are the characteristics of fungi? (A) How do fungi play a role in the natural world? (A)</p>
<p>Vocabulary: organism, cell, unicellular, multi-cellular, autotroph, heterotroph, homeostasis, classification, binomial nomenclature, taxonomy, prokaryote, eukaryote, fossil</p>	<p>Vocabulary: virus, host, parasite, bacteria, cytoplasm, ribosome, flagellum, respiration, binary fission, asexual reproduction, sexual reproduction, conjugation, decomposer, infectious disease, antibiotic, vaccine, toxin</p>	<p>Vocabulary: protist, protozoan, pseudopod, contractile vacuole, cilia, symbiosis, mutualism, algae, spore, algal bloom, eutrophication, red tide, fungi, hyphae, fruiting body, budding, lichen</p>

Topic: Diversity of Life - Bacteria to Plants

Days: 25

Subject(s): Science

Grade(s): 7th

<p>Concept: Introduction to Plants</p> <p>S8.A.1.1.2 S8.A.1.1.3 S8.A.1.1.4 S8.A.1.2.1 S8.A.1.2.3 S8.A.1.3.1 S8.A.1.3.2 S8.A.2.1.1 S8.A.2.1.2 S8.A.2.1.3 S8.A.2.1.4 S8.A.2.1.5 S8.A.2.2.2 S8.A.2.2.3 S8.A.3.1.4 S8.A.3.2.1 S8.A.3.2.3 S8.A.3.3.2 S8.B.1.1.1 S8.B.1.1.2 S8.B.1.1.3</p>	<p>Concept: Seed Plants</p> <p>S8.A.1.1.2 S8.A.1.1.3 S8.A.1.1.4 S8.A.1.2.1 S8.A.1.2.3 S8.A.1.3.1 S8.A.1.3.2 S8.A.2.1.1 S8.A.2.1.2 S8.A.2.1.3 S8.A.2.1.4 S8.A.2.1.5 S8.A.2.2.2 S8.A.2.2.3 S8.A.3.1.4 S8.A.3.2.1 S8.A.3.2.3 S8.A.3.3.2 S8.B.1.1.1 S8.B.1.1.2 S8.B.1.1.3</p>
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<p>Lesson Essential Question(s): What characteristics do all plants share? (A)</p> <p>How do land and water plants? (A)</p> <p>How do vascular and non vascular plants differ? (A)</p> <p>What happens during the process of photosynthesis? (A)</p> <p>What are the characteristics of non-vascular plants? (A)</p> <p>What are the characteristics of seedless vascular plants? (A)</p>	<p>Lesson Essential Question(s): What characteristics do all seed plants share? (A)</p> <p>How do seeds become new plants? (A)</p> <p>What function do roots, stems and leaves serve to a plant? (A)</p> <p>What are characteristics of gymnosperms? (A)</p> <p>What are the characteristics of angiosperms? (A)</p> <p>How do plants respond to stimuli? (A)</p> <p>How do technologies help farmers produce more crops? (A)</p>
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<p>Vocabulary: photosynthesis, tissue, chloroplast, vacuole, cuticle, vascular tissue, fertilization, zygote, non vascular plant, vascular plant, chlorophyll, accessory pigment, rhizoid, bog, peat, frond</p>	<p>Vocabulary: phloem, xylem, pollen, seed, embryo, cotyledon, germination, stomata, transpiration, gymnosperm, cone, pollination, angiosperm, flower, sepal, petal, stamen, pistil, ovary, fruit, monocot, dicot, tropism, photo-periodism, auxin, dormancy, annual, perennial, hydroponics</p>
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Additional Information:

Attached Document(s):

Vocab Report for Topic: Diversity of Life - Bacteria to Plants

Days: 25

Subject(s): Science

Grade(s): 7th

Concept: Living Things

- organism -
- cell -
- unicellular -
- multi-cellular -
- autotroph -
- heterotroph -
- homeostasis -
- classification -
- binomial nomenclature -
- taxonomy -
- prokaryote -
- eukaryote -
- fossil -

Concept: Viruses and Bacteria

- virus -
- host -
- parasite -
- bacteria -
- cytoplasm -
- ribosome -
- flagellum -
- respiration -
- binary fission -
- asexual reproduction -
- sexual reproduction -
- conjugation -
- decomposer -
- infectious disease -
- antibiotic -
- vaccine -
- toxin -

Concept: Protists and Fungi

- protist -
- protozoan -
- pseudopod -
- contractile vacuole -
- cilia -
- symbiosis -
- mutualism -
- algae -
- spore -
- algal bloom -
- eutrophication -

Vocab Report for Topic: Diversity of Life - Bacteria to Plants

Days: 25

Subject(s): Science

Grade(s): 7th

red tide -
fungi -
hyphae -
fruiting body -
budding -
lichen -

Concept: Introduction to Plants

photosynthesis -
tissue -
chloroplast -
vacuole -
cuticle -
vascular tissue -
fertilization -
zygote -
non vascular plant -
vascular plant -
chlorophyll -

accessory pigment -
rhizoid -
bog -
peat -
frond -

Concept: Seed Plants

phloem -
xylem -
pollen -
seed -
embryo -
cotyledon -
germination -
stomata -
transpiration -
gymnosperm -
cone -
pollination -
angiosperm -
flower -
sepal -
petal -
stamen -

Vocab Report for Topic: Diversity of Life - Bacteria to Plants

Days: 25

Subject(s): Science

Grade(s): 7th

pistil -
ovary -

fruit -
monocot -
dicot -
tropism -
photo-periodism -
auxin -
dormancy -
annual -

perennial -
hydroponics -

Topic: Environmental Science

Days: 40

Subject(s): Science

Grade(s): 7th

Key Learning: The natural world is full of complex interrelationships. This complex system can create environmental problems, both natural and man-made. Scientists have evaluated these risks and have examined alternative solutions for resolving and preventing them. Today our global environment is being stressed by many different factors, including habitat destruction, pollution, invasion of non - native species, global warming, and depletion of the ozone layer. Life on earth is dependent on the well being of the environment.



Unit Essential Question(s):

How do organisms interact with the living and non-living parts of their environment?

How does the environment regulate population size and ecosystem stability?

What are the various roles and relationships that exist in an ecosystem?

How do environmental factors affect population growth?

How do living things change over time?

How do humans impact the environment?



Topic: Environmental Science

Days: 40

Subject(s): Science

Grade(s): 7th

<p>Concept: Populations and Communities</p> <p>S8.A.1.1.2, S8.A.1.1.3, S8.A.1.1.4, S8.A.1.2.1, S8.A.1.3.3, S8.A.1.3.4, S8.A.2.1.1, S8.A.2.1.2, S8.A.2.1.3, S8.A.2.1.4, S8.A.2.1.5, S8.A.2.2.2, S8.A.3.1.5, S8.A.3.2.1, S8.B.1.1.1, S8.B.2.1.1, S8.B.2.1.2, S8.B.3.1.3, S8.B.3.2.2, S8.B.3.2.3</p>	<p>Concept: Ecosystems and Biomes</p> <p>S8.A.1.1.2, S8.A.1.1.3, S8.A.1.1.4, S8.A.1.2.1, S8.A.1.3.3; S8.A.1.3.4, S8.A.2.1.1, S8.A.2.1.2, S8.A.2.1.3, S8.A.2.1.4, S8.A.2.1.5, S8.A.2.2.2, S8.A.3.1.4, S8.A.3.1.5, S8.A.3.2.1, S8.A.3.2.3, S8.B.1.1.1, S8.B.2.1.1, S8.B.2.1.2, S8.B.3.1.1, S8.B.3.1.2, S8.B.3.1.3, S8.B.3.2.1, S8.B.3.2.2, S8.B.3.2.3, S8.C.2.1.1, S8.D.1.3.1, S8.D.1.3.2, S8.D.1.3.3, S8.D.1.3.4</p>	<p>Concept: Living Resources</p> <p>S8.A.1.1.2, S8.A.1.1.3, S8.A.1.1.4, S8.A.1.2.1, S8.A.1.2.2, S8.A.1.3.3, S8.A.1.3.4; S8.A.2.1.1, S8.A.2.1.2, S8.A.2.1.3, S8.A.2.1.4, S8.A.2.1.5, S8.A.2.2.2, S8.A.3.1.5, S8.A.3.2.1, S8.B.1.1.1, S8.B.2.1.1, S8.B.2.1.2, S8.B.3.2.1, S8.B.3.2.2, S8.B.3.3.1</p>
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<p>Lesson Essential Question(s): What needs of an organism must be met by their environment? (A)</p> <p>What levels of organization exist within an ecosystem? (A)</p> <p>How is population size determined? (A)</p> <p>What causes changes in population size? (A)</p> <p>How do an organisms adaptations help it survive? (A)</p> <p>What interactions exist between organisms in an ecosystems? (A)</p> <p>How does succession change a community? (A)</p>	<p>Lesson Essential Question(s): What energy roles exist in an ecosystem? (A)</p> <p>How does energy move through an ecosystem? (A)</p> <p>How does matter cycle through an ecosystem? (A)</p> <p>How has the movement of the continents affected the distribution of species? (A)</p> <p>How do environmental factors limit the dispersal of a species? (A)</p> <p>What are the major biomes of Earth? (A)</p> <p>What are the characteristics of aquatic ecosystems? (A)</p>	<p>Lesson Essential Question(s): What environmental issues exist today? (A)</p> <p>How can forests and fisheries be managed? (A)</p> <p>What is the value of biodiversity? (A)</p> <p>How can biodiversity be affected by natural and manmade activities? (A)</p> <p>How are rain forest plants valuable in medical research? (A)</p>
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<p>Vocabulary: organism, habitat, biotic factor, abiotic factor, species, population, community, ecosystem, immigration, emigration, population density, limiting factor, carrying capacity, natural selection, adaptation, niche, competition, predation, symbiosis, succession, pioneer species</p>	<p>Vocabulary: producer, consumer, herbivore, carnivore, omnivore, scavenger, decomposer, food chain, food web, energy pyramid, water cycle, nitrogen fixation, biogeography, dispersal, exotic species, biome, desert, grassland, tundra, estuary</p>	<p>Vocabulary: natural resources, renewable resource, non renewable resource, pollution, clear cutting, sustainable yield, yield, fishery, biodiversity, keystone species, extinction, endangered species, habitat destruction, taxol</p>
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Topic: Environmental Science

Days: 40

Subject(s): Science

Grade(s): 7th

<p>Concept: Land, Water and Air Resources</p> <p>S8.A.1.1.2, S8.A.1.1.3, S8.A.1.1.4, S8.A.1.2.1, S8.A.1.2.2, S8.A.1.3.3, S8.A.1.3.4, S8.A.2.1.1, S8.A.2.1.2, S8.A.2.1.3, S8.A.2.1.4, S8.A.2.1.5, S8.A.2.2.2, S8.A.3.1.1, S8.A.3.1.5, S8.B.3.2.1, S8.B.3.3.1, S8.B.3.3.3, S8.B.3.3.4</p>	<p>Concept: Energy Resources</p> <p>S8.A.1.1.2, S8.A.1.1.3, S8.A.1.1.4, S8.A.1.2.1, S8.A.1.3.3, S8.A.1.3.4, S8.A.1.2.2, S8.A.2.1.1, S8.A.2.1.2, S8.A.2.1.3, S8.A.2.1.4, S8.A.2.1.5, S8.A.2.2.2, S8.A.3.1.5, S8.B.3.2.1, S8.B.3.3.1, S8.B.3.3.2, S8.C.2.1.3, S8.C.2.1.1</p>
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<p>Lesson Essential Question(s): How do people use the land? (A)</p> <p>What problems can occur if soil is not properly managed? (A)</p> <p>How is solid waste disposed of? (A)</p> <p>What are sources of water pollution? (A)</p> <p>What causes air pollution? (A)</p> <p>How can water and air pollution? (A)</p> <p>How can water and air pollution be reduced? (A)</p> <p>How have human activities damaged the environment? (A)</p>	<p>Lesson Essential Question(s): How do fossil fuels provide energy? (A)</p> <p>What are examples of renewable energy? (A)</p> <p>What are examples of non renewable energy? (A)</p> <p>How does a nuclear power plant provide energy? (A)</p> <p>How can individuals conserve energy? (A)</p>
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<p>Vocabulary: litter, topsoil, erosion, desertification, land reclamation, solid waste, incineration, leachate, recycling, biodegradable, hazardous waste, pollutant, sewage, pesticide, emission, smog, ozone, acid rain, radon, global warming, greenhouse effect, chlorofluorocarbons</p>	<p>Vocabulary: fuel, combustion, fossil fuels, refinery, solar energy, hydroelectric power, geothermal energy, nuclear fission, meltdown, efficiency, insulation, energy conservation</p>
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Additional Information:

Attached Document(s):

Vocab Report for Topic: Environmental Science

Days: 40

Subject(s): Science

Grade(s): 7th

Concept: Populations and Communities

organism -
habitat -
biotic factor -

abiotic factor -
species -
population -
community -
ecosystem -
immigration -
emigration -
population density -
limiting factor -
carrying capacity -
natural selection -
adaptation -

niche -
competition -

predation -
symbiosis -
succession -
pioneer species -

Concept: Ecosystems and Biomes

producer -
consumer -
herbivore -
carnivore -
omnivore -
scavenger -
decomposer -
food chain -
food web -
energy pyramid -
water cycle -
nitrogen fixation -

Vocab Report for Topic: Environmental Science

Days: 40

Subject(s): Science

Grade(s): 7th

biogeography -
dispersal -
exotic species -

biome -
desert -
grassland -
tundra -
estuary -

Concept: Living Resources

natural resources -
renewable resource -
non renewable resource -
pollution -
clear cutting -
sustainable yield -
yield -
fishery -
biodiversity -
keystone species -
extinction -
endangered species -
habitat destruction -
taxol -

Concept: Land, Water and Air Resources

litter -
topsoil -
erosion -
desertification -
land reclamation -
solid waste -
incineration -
leachate -
recycling -
biodegradable -
hazardous waste -
pollutant -
sewage -
pesticide -
emission -
smog -
ozone -
acid rain -

Vocab Report for Topic: Environmental Science

Days: 40

Subject(s): Science

Grade(s): 7th

radon -
global warming -
greenhouse effect -
chlorofluorocarbons -

Concept: Energy Resources

fuel -
combustion -
fossil fuels -
refinery -
solar energy -
hydroelectric power -
geothermal energy -
nuclear fission -
meltdown -
efficiency -
insulation -
energy conservation -

Topic: Human Body

Days: 35

Subject(s): Science

Grade(s): 7th

Key Learning: The human body is organized into systems which interact to sustain life. Each system is composed of many parts that work together to maintain homeostasis. The body systems can malfunction, causing disorders and diseases that can affect everyday life.



Unit Essential Question(s):

How do the systems and organs of the human body work together and individually to support life?

Why is each of the systems of the body important?

What issues can arise when the body systems do not function properly?



Topic: Human Body

Days: 35

Subject(s): Science

Grade(s): 7th







<p>Concept: Bones, Muscles and Skin</p> <p>S8.A.1.1.2 S8.A.1.1.3 S8.A.1.1.4 S8.A.1.2.1, S8.A.1.2.3 S8.A.1.3.1 S8.A.2.1.1 S8.A.2.1.2 S8.A.2.1.3 S8.A.2.1.4 S8.A.2.1.5 S8.A.2.2.2 S8.A.3.1.1 S8.A.3.1.2 S8.A.3.1.3 S8.B.1.1.1 S8.B.1.1.4</p>	<p>Concept: Food and Digestion</p> <p>S8.A.1.1.2 S8.A.1.1.3 S8.A.1.1.4 S8.A.1.2.1, S8.A.1.2.3 S8.A.1.3.1 S8.A.2.1.1 S8.A.2.1.2 S8.A.2.1.3 S8.A.2.1.4 S8.A.2.1.5 S8.A.2.2.2 S8.A.3.1.1 S8.A.3.1.2 S8.A.3.1.3 S8.B.1.1.1 S8.B.1.1.4</p>	<p>Concept: Circulation</p> <p>S8.A.1.1.2 S8.A.1.1.3 S8.A.1.1.4 S8.A.1.2.1, S8.A.1.2.3 S8.A.1.3.1 S8.A.2.1.1 S8.A.2.1.2 S8.A.2.1.3 S8.A.2.1.4 S8.A.2.1.5 S8.A.2.2.2 S8.A.3.1.1 S8.A.3.1.2 S8.A.3.1.3 S8.B.1.1.1 S8.B.1.1.4</p>
<p>Lesson Essential Question(s): How is the human body organized? (A)</p> <p>How does the body maintain homeostasis? (A)</p> <p>What are the functions of the skeletal system? (A)</p> <p>How are bone and joint injuries identified and treated? (A)</p> <p>What type of muscles are found in the human body? (A)</p> <p>How do the skeletal and muscular systems work together? (A)</p> <p>What is the structure and function of the skin? (A)</p>	<p>Lesson Essential Question(s): Why does the body need food? (A)</p> <p>What nutrients are necessary for the body to carry out essential functions? (A)</p> <p>How are the functions of the digestive system carried out? (A)</p> <p>What are the roles of each part of the digestive system? (A)</p>	<p>Lesson Essential Question(s): How does the cardiovascular system work? (A)</p> <p>What is the structure and function of the heart? (A)</p> <p>How does blood flow through the circulatory system? (A)</p> <p>What is the structure and function blood vessels? (A)</p> <p>What are the components of blood? (A)</p> <p>How does the lymphatic system work? (A)</p> <p>What diseases affect the cardiovascular system and how are they treated? (A)</p>
<p>Vocabulary: cell, tissue, organ, organ system, homeostasis, stress, skeleton, vertebra, joint, ligament, cartilage, marrow, osteoporosis, epidermis, melanin, dermis, pore, follicle, fracture, dislocation, arthritis, involuntary muscle, voluntary muscle, skeletal muscle, tendon, straited muscle, smooth muscle, cardiac muscle</p>	<p>Vocabulary: nutrient, calorie, carbohydrate, glucose, fat, protein, amino acid, vitamin, mineral, digestion, absorption, saliva, enzyme, peristalsis, bile, villi, Food Guide Pyramid</p>	<p>Vocabulary: cardiovascular system, heart, atrium, ventricle, valve, pacemaker, artery, capillary, vein, aorta, pulse, blood pressure, plasma, red blood cell, white blood cell, hemoglobin, platelet, lymph node</p>

Topic: Human Body

Days: 35

Subject(s): Science

Grade(s): 7th

<p>Concept: Respiration and Excretion</p> <p>S8.A.1.1.2 S8.A.1.1.3 S8.A.1.1.4 S8.A.1.2.1, S8.A.1.2.3 S8.A.1.3.1 S8.A.2.1.1 S8.A.2.1.2 S8.A.2.1.3 S8.A.2.1.4 S8.A.2.1.5 S8.A.2.2.2 S8.A.3.1.1 S8.A.3.1.2 S8.A.3.1.3 S8.B.1.1.1 S8.B.1.1.4</p>	<p>Concept: Fighting Disease</p> <p>S8.A.1.1.2 S8.A.1.1.3 S8.A.1.1.4 S8.A.1.2.1, S8.A.1.2.3 S8.A.1.3.1 S8.A.2.1.1 S8.A.2.1.2 S8.A.2.1.3 S8.A.2.1.4 S8.A.2.1.5 S8.A.2.2.2 S8.A.3.1.1 S8.A.3.1.2 S8.A.3.1.3 S8.B.1.1.1 S8.B.1.1.4</p>	<p>Concept: Nervous System</p> <p>S8.A.1.1.2 S8.A.1.1.3 S8.A.1.1.4 S8.A.1.2.1, S8.A.1.2.3 S8.A.1.3.1 S8.A.2.1.1 S8.A.2.1.2 S8.A.2.1.3 S8.A.2.1.4 S8.A.2.1.5 S8.A.2.2.2 S8.A.3.1.1 S8.A.3.1.2 S8.A.3.1.3 S8.B.1.1.1 S8.B.1.1.4</p>
<p style="text-align: center;"></p> <p>Lesson Essential Question(s): How does the respiratory system function? (A)</p> <p>How can tobacco smoke harm the human body? (A)</p> <p>How does the excretory system function? (A)</p>	<p style="text-align: center;"></p> <p>Lesson Essential Question(s): What causes infectious diseases? (A)</p> <p>How can infectious diseases be spread? (A)</p> <p>How does the human body fight off infectious diseases? (A)</p> <p>How can infectious diseases be prevented? (A)</p> <p>What non infectious diseases can affect the human body? (A)</p> <p>How can environmental factors cause disease? (A)</p>	<p style="text-align: center;"></p> <p>Lesson Essential Question(s): How does the nervous system function? (A)</p> <p>How is the nervous system divided? (A)</p> <p>What senses do humans have? (A)</p> <p>How do drugs and alcohol affect the human body? (A)</p>
<p style="text-align: center;"></p> <p>Vocabulary: respiration, cilia, pharynx, bronchi, alveoli, diaphragm, larynx, vocal cords, excretion, nephron, tar, carbon monoxide, bronchitis, emphysema</p>	<p style="text-align: center;"></p> <p>Vocabulary: pathogen, infectious disease, toxin, inflammatory response, phagocyte, lymphocyte, T- cell, B- cell, antibody, non infectious disease, allergy, histamine, asthma, diabetes, carcinogen, immunity, vaccine</p>	<p style="text-align: center;"></p> <p>Vocabulary: stimulus, response, neuron, dendrite, nerve, synapse, sensory neuron, interneuron, motor neuron, central nervous system, peripheral nervous system, brain, spinal cord, reflex, concussion, cornea, pupil, iris, retina, nearsightedness, farsightedness, eardrum, cochlea, drug, tolerance, addiction, withdrawal, depressant, stimulant</p>

Topic: Human Body

Days: 35

Subject(s): Science

Grade(s): 7th

Concept:

Endocrine System and Reproduction

S8.A.1.1.2 S8.A.1.1.3 S8.A.1.1.4 S8.A.1.2.1, S8.A.1.2.3 S8.A.1.3.1 S8.A.2.1.1 S8.A.2.1.2 S8.A.2.1.3 S8.A.2.1.4 S8.A.2.1.5 S8.A.2.2.2 S8.A.3.1.1 S8.A.3.1.2 S8.A.3.1.3 S8.B.1.1.1 S8.B.1.1.4



Lesson Essential Question(s):

How does the endocrine system work? (A)

What is sexual reproduction? (A)

What are the stages of human development that occur before birth? (A)

What changes occur from infancy to adulthood? (A)



Vocabulary:

endocrine gland, hormone, target cell, negative feedback, egg, sperm, fertilization, zygote, embryo, fetus, amniotic sac, placenta, adolescence, puberty

Additional Information:

Attached Document(s):

Vocab Report for Topic: Human Body

Days: 35

Subject(s): Science

Grade(s): 7th

Concept: Bones, Muscles and Skin

- cell -
- tissue -
- organ -
- organ system -
- homeostasis -
- stress -
- skeleton -
- vertebra -
- joint -
- ligament -
- cartilage -
- marrow -
- osteoporosis -
- epidermis -
- melanin -
- dermis -
- pore -
- follicle -
- fracture -
- dislocation -
- arthritis -
- involuntary muscle -
- voluntary muscle -
- skeletal muscle -
- tendon -
- straited muscle -
- smooth muscle -
- cardiac muscle -

Concept: Food and Digestion

- nutrient -
- calorie -
- carbohydrate -
- glucose -
- fat -
- protein -
- amino acid -
- vitamin -
- mineral -
- digestion -
- absorption -
- saliva -
- enzyme -
- peristalsis -
- bile -
- villi -
- Food Guide Pyramid -

Vocab Report for Topic: Human Body

Days: 35

Subject(s): Science

Grade(s): 7th

Concept: Circulation

cardiovascular system -
heart -
atrium -
ventricle -
valve -
pacemaker -
artery -
capillary -

vein -
aorta -
pulse -
blood pressure -
plasma -
red blood cell -
white blood cell -
hemoglobin -
platelet -
lymph node -

Concept: Respiration and Excretion

respiration -
cilia -
pharynx -
bronchi -
alveoli -
diaphragm -
larynx -
vocal cords -
excretion -
nephron -
tar -
carbon monoxide -
bronchitis -
emphysema -

Concept: Fighting Disease

pathogen -
infectious disease -
toxin -
inflammatory response -
phagocyte -
lymphocyte -

Vocab Report for Topic: Human Body

Days: 35

Subject(s): Science

Grade(s): 7th

T- cell -
B- cell -
antibody -
non infectious disease -
allergy -
histamine -
asthma -
diabetes -
carcinogen -
immunity -
vaccine -

Concept: Nervous System

stimulus -
response -
neuron -
dendrite -
nerve -
synapse -
sensory neuron -
interneuron -
motor neuron -
central nervous system -
peripheral nervous system -
brain -
spinal cord -
reflex -
concussion -
cornea -
pupil -
iris -
retina -
nearsightedness -
farsightedness -
eardrum -
cochlea -
drug -
tolerance -
addiction -
withdrawal -
depressant -
stimulant -

Concept: Endocrine System and Reproduction

endocrine gland -
hormone -
target cell -
negative feedback -

Vocab Report for Topic: Human Body

Days: 35

Subject(s): Science

Grade(s): 7th

egg -
sperm -
fertilization -
zygote -
embryo -
fetus -
amniotic sac -
placenta -
adolescence -
puberty -

Topic: Nature of Science

Days: 17

Subject(s): Science

Grade(s): 7th

Key Learning: Scientists use a variety of skills, processes and methods of inquiry to investigate the natural world and solve real world problems. Mathematics and technology play a major role in scientific discoveries.



Unit Essential Question(s):

How do scientists investigate the natural world?

How is mathematics important to the work of scientists?

How does technology affect society?



Concept:

What is science?

S8.A.1.1.1 S8.A.1.1.2
 S8.A.1.1.3 S8.A.1.1.4
 S8.A.1.2.3 S8.A.1.3.2
 S8.A.2.1.2 S8.A.2.1.3
 S8.A.2.1.5 S8.A.2.2.2

Concept:

The work of scientists

S8.A.1.1.2 S8.A.1.1.3
 S8.A.1.3.1 S8.A.1.3.2
 ;S8.A.2.1.1 S8.A.2.1.2
 S8.A.2.1.3 S8.A.2.1.4
 S8.A.2.1.5 S8.A.2.2.1
 S8.A.2.2.2

Concept:

Technology and Engineering

S8.A.1.1.4 S8.A.1.2.1
 S8.A.1.2.3 S8.A.2.1.6
 S8.A.2.2.3 S8.A.3.1.1
 S8.A.3.1.2 S8.A.3.1.3



Lesson Essential Question(s):

What skills do scientists use to learn about the world? (A)

What is scientific inquiry? (A)

Why study science? (A)

How is science important to scientific and non scientific careers? (A)

(A)

Lesson Essential Question(s):

What units are used to measure in science? (A)

What math skills are necessary to study science? (A)

How do scientists display data? (A)

Why is safety in science important? (A)

Lesson Essential Question(s):

What is the goal of technology? (A)

What is involved in the technology design process? (A)

How does technology affect people in both positive and negative ways? (A)



Vocabulary:

observing, inferring, predicting, classifying, science, scientific inquiry, variable, scientific theory, scientific law, science, hypothesis, scientific literacy

Vocabulary:

metric system, mass, weight, volume, density, estimate, graph, lab safety rules

Vocabulary:

technology, obsolete, system, brainstorming, prototype, patent, risk benefit analysis

Topic: Nature of Science

Days: 17

Subject(s): Science

Grade(s): 7th

Additional Information:

Attached Document(s):

Vocab Report for Topic: Nature of Science

Days: 17

Subject(s): Science

Grade(s): 7th

Concept: What is science?

- observing -
- inferring -
- predicting -
- classifying -
- science -
- scientific inquiry -
- variable -
- scientific theory -
- scientific law -
- science -
- hypothesis -
- scientific literacy -

Concept: The work of scientists

- metric system -
- mass -
- weight -
- volume -
- density -
- estimate -
- graph -
- lab safety rules -

Concept: Technology and Engineering

- technology -
- obsolete -
- system -
- brainstorming -
- prototype -
- patent -
- risk benefit analysis -