



7- Science

The Characteristics of Living Things

Standards

MS-LS-1

Resources

FOSS

Competencies

- Understand the relationship between an organisms' structures, their organization and its life functions, including information processing.

I can

- I can use data from investigations as evidence that living things are made of cells.
- I can identify the characteristics of living things.

Vocab

Content: organism, cell, unicellular, multicellular, stimulus, response, homeostasis, virus, bacteria, fungi, protist, plant, animal

Academic: use data, identify



7- Science

Cell Processes (Photosynthesis and Respiration)

Standards

MS-LS1-6
MS-LS1-7

Resources

FOSS

Competencies

• Understand how organisms use matter and energy and how it flows through an ecosystem.

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I can

- I can demonstrate using models how photosynthesis moves matter and energy through organisms in cycles.
- I can use a model of chemical reactions involving food molecules (sugar) to explain how energy is used in organisms.

Vocab

Content: atom, element, compound, molecule, glucose, oxygen, water, carbon dioxide, chloroplast, producer, mitochondria, consumer

Academic: demonstrate, use a model, explain



7- Science

Human System Interactions

Standards

MS-LS1-3; MS-LS1-8
MS-ETS1-3; MSETS1-4

Resources

FOSS

Competencies

- Understand the relationship between an organisms' structures, their organization and its life functions, including information processing.

I can

- I can describe differences in cells within a multicellular organism.
- I can gather and synthesize information that sensory receptors respond to stimuli by sending messages to the brain for immediate behavior or storage as memories.
- I can evaluate the effectiveness of various engineering designs and combine the best of each to create a more successful design.
- I can develop a model to do a job, test it, and revise it for improvement.

Vocab

Content: unicellular, multicellular, cell, tissue, organ, organ system, brain, neuron, sensory receptor, engineering, prosthetic hand, pneumatic, hydraulic

Academic: describe differences, gather and synthesize, evaluate and design, develop a model, revise



7- Science

Ecology

Standards

MS-LS2-1; MS-LS2-2
MS-LS2-3; MSLS2-4

Resources

FOSS

Competencies

- Understand how organisms use matter and energy and how it flows through an ecosystem.

Understand how organisms interact within an environment to obtain matter and energy.
Understand how organisms use matter and energy and how it flows through an ecosystem.

I can

- I can develop a model that describes how organisms within an ecosystem depend upon the cycling of living and nonliving components.
- I can explain interaction patterns among organisms in ecosystems.
- I can develop a model that describes how organisms within an ecosystem depend upon the cycling of living and nonliving components.

Vocab

Content: abiotic, biotic, ecosystem, population, community, predator, prey, consumer, producer, scavenger, symbiosis, mutualism, commensalism, parasitism, food chain, food web, energy pyramid

Academic: develop a model, describe, explain interaction patterns



7- Science

Reproduction, DNA, Genetics

Standards

MS-LS3-2; MS-LS3-1
MS-LS4-5

Resources

FOSS

Competencies

- Understand how organisms within an ecosystem use matter and energy to grow, develop and reproduce.

Gather and synthesize information about technologies that have changed the way humans influence the inheritance of desired traits in organisms.

I can

- I can use a model to describe why genetic variation occurs or does not occur based on reproduction type.
- I can use evidence to explain how genetic and environmental factors affect organisms.
- I can gather and synthesize information about how humans influence the inheritance of traits in organisms.

Vocab

Content: asexual, sexual, gene, DNA, mutations, homozygous, heterozygous, genotype, phenotype, artificial selection, selective breeding, genetic engineering

Academic: use a model, use evidence, explain, gather and synthesize



7- Science

Biodiversity

Standards

MS-LS2-5; MS-ETS-1
MS-ETS1-1; MSETS1-2

Resources

FOSS

Competencies

• Understand how organisms interact within an environment to obtain matter and energy. A successful student can understand engineering designs to define problems, develop solutions, and optimize solutions to a problem in life science.

I can

- I can evaluate solutions that minimize the effects of human actions upon biodiversity.
- I can identify the benefits and constraints of proposed solutions to maintain biodiversity in an ecosystem.
- I can define a problem, look at solutions, and identify possible impacts of the solution.
- I can compare different solutions to a problem to identify the effectiveness of the solution.

Vocab

Content: biodiversity, constraint,

Academic: evaluate, identify benefits and constraints, define, evaluate effectiveness



7- Science

Evolution

Standards

MS-LS1-5; MS-LS4-1;
MS-LS4-2; MS-LS4-3;
MS-LS4-4; MS-LS4-6

Resources

FOSS

Competencies

- Understand how organisms within an ecosystem use matter and energy to grow, develop and reproduce.

Understand why the relationship between the environment and genetic variation within a species affects survival and reproduction over time.

I can

- I can compare similarities in the embryological development across multiple species to identify possible relationships.
- I can use evidence to explain why specific traits will lead to increases or decreases in survival or reproduction chances.
- I can use mathematical relationships to explain changes in traits within populations over time.

Vocab

Content: embryo, mutations, variations, adaptations, natural selection

Academic: compare similarities, identify relationships, use evidence, explain data, use mathematical relationships to explain changes



7- Science

Plant Investigation

Standards

MS-LS2-3; MS-LS1-6;
MS-LS1-4

Resources

FOSS

Competencies

- Understand Understand how organisms use matter and energy and how it flows through an ecosystem.
Understand how organisms within an ecosystem use matter and energy to grow, develop and reproduce.

I can

- I can explain the flow of matter and energy from the environment to plants, allowing them to grow and develop.
- I can demonstrate how plants get matter and energy from their environment to grow, develop, and reproduce.
- I can use evidence to support the claim that animal behaviors or plant structures affect reproduction.

Vocab

Content: independent variable, dependent variable, constant, hypothesis, height, photosynthesis, pollination, germination, predator, prey, consumer, producer

Academic: explain, demonstrate, use evidence, support a claim



7- Science

Population and Land Use

Standards

MS-ES6-2; MS-LS1-4

Resources

FOSS

Competencies

- Understand the impact of human activity on resources and environment.

I can

- I can identify how humans population and land use is affecting the earth and identify activities that are making the impact better and worse.

Vocab

Content: pollution, global warming, population, deforestation, land use

Academic: identify impact