5-PS3-1 Energy

Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.

Literacy or Informative Text	Lab Investigations	Assessments
Scott Foresman text pages:(A118-A134) The Penguin: Science and Literacy: Delta Reader- Energy pgs:16-18 Food Chains (enchantedlearning.com) Food Chains and Food Webs(ScienceA-Z)	4 Purposes of Animals Food (SciencePenguin) Food Chain Activity(myips.org) Food Chain Stack Attack(agapecenter.com) Food chain mobile (rcsnc.org) Food Web Poster Project (bcsc.k12.us)	• Warm Up Activities • Investigations • Scientific Method Documentation • Graphic Organizers • Lab Matrixes/written observations • Written Connection Summary • Foldables/Lab Interactive Notebooks • Performance Indicator Assessments • Teacher Observations/Student Participation

Technology:

Food Chains (makemegenius)
Fabulous Food chains (crashcoursekids)
Food Chains(BrainPop.com)
Food Chain game (Sheppards software.com
Food Chains (interactivesites.weebly.com)
Food Chains game (Akidsheart.com)

Observable features of the student performance by the end of the grade:

1. Components of the model a Students use models to describe* a phenomenon that includes the idea that energy in animals' food was once energy from the sun. Students identify and describe* the components of the model that are relevant for describing* the phenomenon, including:
i. Energy.
ii. The sun.
iii. Animals, including their bodily functions (e.g., body repair, growth, motion, body warmth maintenance).
iv. Plants.

2. Relationships a Students identify and describe* the relevant relationships between components, including:
i. The relationship between plants and the energy they get from sunlight to produce food.
ii. The relationship between food and the energy and materials that animals require for bodily functions (e.g., body repair, growth, motion, body warmth maintenance).
iii. The relationship between animals and the food they eat, which is either other animals or plants (or both), to obtain energy for bodily functions and materials for growth and repair.

3. Connections a Students use the models to describe* causal accounts of the relationships between energy from the sun and animals' needs for energy, including that:
i. Since all food can eventually be traced back to plants, all of the energy that animals use for body repair, growth, motion, and body warmth maintenance is energy that once came from the sun. ii. Energy from the sun is transferred to animals through a chain of events that begins with plants producing food then being eaten by animals.

5-LS1-1 Molecules to Organisms/Structures and Processes

5-LS1-1 Support an argument that plants get the materials they need for growth chiefly from air and water. [Clarification Statement: Emphasis is on the idea that plant matter comes mostly from air and water, not from the soil.]

Literacy or Informative Text	Lab Investigations	Assessments
Scott Foresman text pages:A 118-128 The Penguin Science and Literacy: "Do Plants Eat" Delta Reader- Air and water	Diagram sheet on Photosynthesis (Penguin) Plant Investigations Notebook Color Changing Celery Experiments/Colored Carnations Bend A Carrot Grow a Potato in a Cup Living Investigations with Crayfish	• Warm Up Activities • Investigations • Scientific Method Documentation • Graphic Organizers • Lab Matrixes/written observations • Written Connection Summary • Foldables/Lab Interactive Notebooks • Performance Indicator Assessments • Teacher Observations/Student Participation

Technology:

https://www.youtube.com/watch?v=tXptM5HPm-YGSS
5-LS1-1 What Do Plants Need to Grow? Experiment Setup

Who Needs Dirt?: Crash Course Kids #27.1
https://www.youtube.com/watch?v=tXptM5HPm-Y

The Color-Changing Celery Experiment!
https://www.youtube.com/watch?v=Klug9Foou3s

Celery and Food Coloring Experiment
https://www.youtube.com/watch?v=PdQsvW7QjIM

5LS2- Ecosystems: Interactions, Energy,and Dynamics

5LS2- _Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.[Clarification Statement: Emphasis is on the idea that matter that is not food (air, water, decomposed materials in soil) is changed by plants into matter that is food. Examples of systems could include organisms, ecosystems, and the Earth.] [Assessment Boundary: Assessment does not include molecular explanations.]

Literacy or Informative Text	Lab Investigations	Assessments
Scott Foresman text pages:118-134 **The Penguin** **Science and Literacy** **Delta Readers:** **Ecosystems** **Changing Ecosystems**	**How Can you Test Your Soil** • **Food Chain Vocabulary-foldable** • **Decomposers- Foldable** • **Movement of Energy In Food Chains** • **Will it Grow?** • **Bread/Mold Experiment** • **Growing Bacteria in Petri Dishes** • **Mold Terrarium** • **Movement of Energy in Food Webs** • **Nitrogen Cycle** • **Draw and Label a diagram that shows how energy flows through an ecosystem** • **Lightbulb Terrarium (Pinterest)** • **Ecosystem Diorama**	• **Warm Up Activities** • **Investigations** • **Scientific Method Documentation** • **Graphic Organizers** • **Lab Matrixes/written observations** • **Written Connection Summary** • **Foldables/Lab Interactive Notebooks** • **Performance Indicator Assessments** • **Teacher Observations/Student Participation**

Technology:

How Can You Test Your Soil?
http://www.earthsciweek.org/classroom-activities/how-can-you-test-your-soil
The Dirt on Decomposers: Crash Course Kids #7.2
https://www.youtube.com/watch?v=uB61rfeeAsM
Understanding Ecosystems for Kids: Producers, Consumers, Decomposers - FreeSchool
https://www.youtube.com/watch?v=bJEToQ49Yjc
Food Chains Compilation: Crash Course Kids
https://www.youtube.com/watch?v=CZhE2p46vJk
DIY Light Bulb Terrariums - Man Vs Pin - Pinterest Test #56
https://www.youtube.com/watch?v=QqKIgrLorII
4th Grade Ecosystems
https://www.youtube.com/watch?v=KamQ_VoGs

observable features of the student performance by the end of the grade:

1. Components of the model a Students develop a model to describe* a phenomenon that includes the movement of matter within an ecosystem. In the model, students identify the relevant components, including:
i. Matter.
ii. Plants.
iii. Animals
iv. Decomposers, such as fungi and bacteria.
v. Environment.

2. Relationships a Students describe* the relationships among components that are relevant for describing* the phenomenon, including:
i. The relationships in the system between organisms that consume other organisms, including:
1. Animals that consume other animals.
2. Animals that consume plants. June 2015 Page 1 of 2 3. Organisms that consume dead plants and animals. 4. The movement of matter between organisms during consumption.
ii. The relationship between organisms and the exchange of matter from and back into the environment (e.g., organisms obtain matter from their environments for life processes and release waste back into the environment, decomposers break down plant and animal remains to recycle some materials back into the soil). 3 Connections a Students use the model to describe*: i. The cycling of matter in the system between plants, animals, decomposers, and the environment. ii. How interactions in the system of plants, animals, decomposers, and the environment allow multiple species to meet their needs.
iii. That newly introduced species can affect the balance of interactions in a system (e.g., a new animal that has no predators consumes much of another organism's food within the ecosystem).
iv. That changing an aspect (e.g., organisms or environment) of the ecosystem will affect other aspects of the ecosystem.