Real World Ecosystems Curriculum Connections

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Alberta

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  - STS 2 Trace and interpret the flow of energy and materials within an ecosystem
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    - describe and interpret examples of scientific investigations that serve to inform environmental decision making
    - illustrate, through examples, the limits of scientific and technological knowledge in making decisions about life-supporting environments

Activity: Ecosystem in a Bottle

Alberta

- Grade 7 Science: Interactions and Ecosystems
  - STS 1 Investigate and describe relationships between humans and their environments, and identify related issues and scientific questions
    - illustrate how life-supporting environments meet the needs of living things for nutrients, energy sources, moisture, suitable habitat, and exchange of gases

Activity: Ecosystem Benefits

Alberta

- Grade 7 Science: Interactions and Ecosystems
  - STS 1 Investigate and describe relationships between humans and their environments, and identify related issues and scientific questions
    - illustrate how life-supporting environments meet the needs of living things for nutrients, energy sources, moisture, suitable habitat, and exchange of gases

Activity: Energy Flows

Alberta

- Grade 7 Science: Interactions and Ecosystems
  - STS 2 Trace and interpret the flow of energy and materials within an ecosystem
    - analyze ecosystems to identify producers, consumers and decomposers; and describe how energy is supplied to and flows through a food web, by:

- describing and giving examples of energy and nutrient storage in plants and animals
- describing how matter is recycled in an ecosystem through interactions among plants, animals, fungi, bacteria and other microorganisms
- interpreting food webs, and predicting the effects of changes to any part of a web

Activity: Matter Cycles

The Carbon Cycle

Alberta

- Grade 7 Science: Interactions and Ecosystems
  - STS 2 Trace and interpret the flow of energy and materials within an ecosystem
    - analyze ecosystems to identify producers, consumers and decomposers; and describe how energy is supplied to and flows through a food web, by:
      - describing how matter is recycled in and ecosystem through interactions among plants, animals, fungi, bacteria and other microorganisms
    - describe the process of cycling carbon and water through an ecosystem

The Nitrogen Cycle

Alberta

- Grade 7 Science: Interactions and Ecosystems
  - STS 2 Trace and interpret the flow of energy and materials within an ecosystem
    - analyze ecosystems to identify producers, consumers and decomposers; and describe how energy is supplied to and flows through a food web, by:
      - describing how matter is recycled in an ecosystem through interactions among plants, animals, fungi, bacteria and other microorganisms

- describe the process of cycling carbon and water through an ecosystem

The Water Cycle

Alberta

- Grade 7 Science: Interactions and Ecosystems
  - STS 2 Trace and interpret the flow of energy and materials within an ecosystem
    - analyze ecosystems to identify producers, consumers and decomposers; and describe how energy is supplied to and flows through a food web, by:
      - describing how matter is recycled in an ecosystem through interactions among plants, animals, fungi, bacteria and other microorganisms
    - describe the process of cycling carbon and water through an ecosystem

Activity: Relationships & Interactions

Alberta

- Grade 7 Science: Interactions and Ecosystems
  - STS 2 Trace and interpret the flow of energy and materials within an ecosystem
    - analyze ecosystems to identify producers, consumers and decomposers; and describe how energy is supplied to and flows through a food web, by:
      - describing and giving examples of energy and nutrient storage in plants and animals
      - describing how matter is recycled in and ecosystem through interactions among plants, animals, fungi, bacteria and other microorganisms

Activity: Natural Disturbances

Alberta

- Grade 7 Science: Interactions and Ecosystems
  - STS 2 Trace and interpret the flow of energy and materials within an ecosystem
    - analyze ecosystems to identify producers, consumers and decomposers; and describe how energy is supplied to and flows through a food web, by:
      - describing and giving examples of energy and nutrient storage in plants and animals
      - describing how matter is recycled in an ecosystem through interactions among plants, animals, fungi, bacteria and other microorganisms
      - interpreting food webs, and predicting the effects of changes to any part of the food web
  - STS 4 Describe the relationships among knowledge, decisions and actions in maintaining life-supporting environments
    - identify intended and unintended consequences of human activities within local and global environments

Activity: Enough is Enough

Alberta

- Grade 7 Science: Interactions and Ecosystems
  - STS 3 Monitor a local environment, and assess the impacts of environmental factors on the growth, health and reproduction of organisms in that environment
    - investigate a variety of habitats, and describe and interpret distribution patterns of living things found in those habitats
    - investigate and interpret evidence of interaction and change

- STS 4 Describe the relationships among knowledge, decisions and actions in maintaining life-supporting environments
  - identify intended and unintended consequences of human activities within local and global environments

Activity: Succession

Alberta

- Grade 7 Science: Interactions and Ecosystems
  - STS 3 Monitor a local environment, and assess the impacts of environmental factors on the growth, health and reproduction of organisms in that environment
    - investigate a variety of habitats, and describe and interpret distribution patterns of living things found in those habitats
    - identify signs of ecological succession in local ecosystems (e.g., emergence of fireweed in recently cut forest areas, replacement of poplar by spruce in maturing forests, reestablishment of native plants on unused farmland)
  - STS 4 Describe the relationships among knowledge, decisions and actions in maintaining life-supporting environments
    - analyze a local environmental issue or problem based on evidence

Activity: Sensible Science

Alberta

- Grade 7 Science: Interactions and Ecosystems

- STS 4 Describe the relationships among knowledge, decisions and actions in maintaining life-supporting environments
  - describe and interpret examples of scientific investigations that serve to inform environmental decision-making
  - illustrate, through examples, the limits of scientific and technological knowledge in making decisions about life-supporting environments.

Activity: Making Good Decisions

Alberta

- Grade 7 Science: Interactions and Ecosystems
  - STS 4 Describe the relationships among knowledge, decisions and actions in maintaining life-supporting environments
    - describe and interpret examples of scientific investigations that serve to inform environmental decision-making

Activity: Our Ecological Footprint

Alberta

- Grade 7 Science: Interactions and Ecosystems
  - STS 1 Investigate and describe relationships between humans and their environments, and identify related issues and scientific questions
    - identify examples of human impacts on ecosystems, and investigate and analyze the link between these impacts and the human wants and needs that give rise to them

Activity: Creating Change

Alberta

- Grade 7 Science: Interactions and Ecosystems
  - STS 1 Investigate and describe relationships between humans and their environments, and identify related issues and scientific questions
    - analyze personal and public decisions that involve consideration of environmental impacts, and identify needs for scientific knowledge that can inform those decisions.
  - STS 4 Describe the relationships among knowledge, decisions and actions in maintaining life-supporting environments
    - analyze a local environmental issue or problem based on evidence from a variety of sources, and identify possible actions and consequences