

SDG Challenge Curricular Connections

Grade 7
Science

Unit A: Interactions and Ecosystems (Social and Environmental Emphasis)

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
 - describe examples of interaction and interdependency within an ecosystem
 - 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
 - analyze personal and public decisions that involve consideration of environmental impacts, and identify needs for scientific knowledge that can inform those decisions
2. 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
 - 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
 - analyze a local environmental issue or problem based on evidence from a variety of sources, and identify possible actions and consequences

Unit B: Plants for Food and Fibre

1. Investigate plant uses; and identify links among needs, technologies, products and impacts.
 - Investigate practical problems and issues in maintaining productive plants within sustainable environments, and identify questions for further study.
4. Identify and interpret relationships among human needs, technologies, environments, and the culture and use of living things as sources of food and fibre
 - investigate and identify intended and unintended consequences of environmental management practices
 - identify the effects of different practices on the sustainability of agriculture and environmental resources
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Skills (focus on research and inquiry skills to inform the decision-making process)

Initiating and Planning

- identify science-related issues
- identify questions to investigate arising from science-related issues
- select appropriate methods and tools for collecting relevant data and information.

Performing and Recording

- research information relevant to a given question, problem or issue
- identify information and data that are relevant to the issue
- select and integrate information from various print and electronic sources, or from several parts of the same source.

Analyzing and Interpreting

- apply given criteria for evaluating evidence and sources of information
- identify new questions and problems that arise from what was learned
- identify and evaluate potential applications of findings.

Communication and Teamwork

- work cooperatively with team members to develop and carry out a plan and troubleshoot problems as they arise

	<ul style="list-style-type: none"> defend a given position on an issue, based on findings evaluate individual and group processes used in investigating an issue and in evaluating alternative decisions.
Grade 7 English	<p>1.1 Discover and Explore: Express ideas and develop understanding</p> <ul style="list-style-type: none"> extend understanding of ideas and information by finding and exploring oral, print and other media texts on related topics and themes express personal understandings of ideas and information based on prior knowledge, experiences with others and a variety of oral, print and other media texts <p>1.2 Clarify and Extend Consider the ideas of others</p> <ul style="list-style-type: none"> listen and respond constructively to alternative ideas or opinions <p>Combine ideas</p> <ul style="list-style-type: none"> use talk, writing and representing to examine, clarify and assess understanding of ideas, information and experiences <p>Extend understanding</p> <ul style="list-style-type: none"> talk with others to elaborate ideas, and ask specific questions to seek helpful feedback <p>2.1 Use Strategies and Cues Use prior knowledge</p> <ul style="list-style-type: none"> select and focus relevant ideas from personal experiences and prior knowledge to understand new ideas and information <p>3.1 Plan and Focus Focus Attention</p> <ul style="list-style-type: none"> use note-taking, outlining or representing to summarize important ideas and information in oral, print and other media texts <p>Plan to gather information</p> <ul style="list-style-type: none"> plan and organize data collection based on instructions, explanations and pre-established parameters <p>3.2 Select and Process Use a variety of sources</p> <ul style="list-style-type: none"> obtain information from a variety of sources, such as adults, peers, advertisements, magazines, lyrics, formal interviews, almanacs, broadcasts and videos, to explore research questions <p>Access information</p> <ul style="list-style-type: none"> use a variety of tools and text features, such as headings, subheadings, topic sentences, summaries, staging and pacing, and highlighting, to access information scan to locate specific information quickly; summarize and record information useful for research purposes <p>3.3 Organize, Record and Evaluate Organize information</p> <ul style="list-style-type: none"> produce oral, print and other media texts with well-developed and well-linked ideas and sections <p>Record information</p> <ul style="list-style-type: none"> make notes, using headings and subheadings or graphic organizers appropriate to a topic; reference sources reflect on ideas and information to form own opinions with evidence to support them compare, contrast and combine ideas and information from several sources <p>Evaluate information</p>

	<ul style="list-style-type: none"> • assess if the amount and quality of gathered information is appropriate to purpose and audience; address information gaps • connect new information with prior knowledge to build new understanding <p>3.4 Share and Review</p> <p>Share ideas and information</p> <ul style="list-style-type: none"> • communicate ideas and information in a variety of oral, print and other media texts, such as reports, autobiographies, brochures and video presentations • use appropriate visual, print and/or other media effectively to inform and engage the audience <p>Review research process</p> <ul style="list-style-type: none"> • identify strengths and areas for improvement in personal research skills <p>4.1 Enhance and Improve</p> <p>Revise and edit</p> <ul style="list-style-type: none"> • revise introductions, conclusions and the order of ideas and information to add coherence and clarify meaning <p>4.3 Present and Share</p> <p>Present information</p> <ul style="list-style-type: none"> • present ideas and opinions confidently, but without dominating the discussion, during small group activities and short, whole class sessions <p>Enhance presentation</p> <ul style="list-style-type: none"> • clarify and support ideas or opinions with details, visuals or media technique <p>Use effective oral and visual communication</p> <ul style="list-style-type: none"> • identify and use explicit techniques to arouse and maintain interest and to convince the audience <p>5.2 Work within a Group</p> <p>Cooperate with others</p> <ul style="list-style-type: none"> • contribute collaboratively in group situations, by asking questions and building on the ideas of others • take responsibility for assuming a variety of roles in a group, depending on changing contexts and needs <p>Work in groups</p> <ul style="list-style-type: none"> • contribute ideas, knowledge and questions to establish an information base for research or investigations • assist in setting and achieving group goals by inviting others to speak, suggesting alternatives, assigning tasks, sharing resources, following up on others' ideas and listening to a variety of points of view <p>Evaluate group process</p> <ul style="list-style-type: none"> • evaluate group process and personal contributions according to pre-established criteria to determine strengths and areas for improvement
Grade 9 Science	<p>Science, Technology and Society (STS) and Knowledge</p> <p>Unit C: Environmental Chemistry</p> <p>1. Investigate and describe, in general terms, the role of different substances in the environment in supporting or harming humans and other living things</p> <ul style="list-style-type: none"> • identify common organic and inorganic substances that are essential to the health and growth of humans and other living things, and illustrate the roles served by these substances • describe, in general terms, the forms of organic matter synthesized by plants and animals, including carbohydrates, proteins and lipids • describe and illustrate processes by which chemicals are introduced to the environment or their concentrations are changed

	<ul style="list-style-type: none">• describe the uptake of materials by living things through ingestion or absorption, and investigate and describe evidence that some materials are difficult for organisms to break down or eliminate• identify questions that may need to be addressed in deciding what substances—in what amounts—can be safely released into the environment <p>2. Identify processes for measuring the quantity of different substances in the environment and for monitoring air and water quality</p> <ul style="list-style-type: none">• identify substrates and nutrient sources for living things within a variety of environments• describe and illustrate the use of biological monitoring as one method for determining environmental quality• identify chemical factors in an environment that might affect the health and distribution of living things in that environment <p>3. Analyze and evaluate mechanisms affecting the distribution of potentially harmful substances within an environment</p> <ul style="list-style-type: none">• investigate and evaluate potential risks resulting from consumer practices and industrial processes, and identify processes used in providing information and setting standards to manage these risks• identify and evaluate information and evidence related to an issue in which environmental chemistry plays a major role
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