

INTRODUCTORY HANDBOOK FOR THE SECONDARY MODULES

Activity #1: RENEWABLE OR NOT?

SCIENCE

Students will demonstrate an increasing ability to understand that

- science and technology can affect individuals, and that individuals in turn can affect science and technology (2e; *Science, Technology, and Society*).
- the Earth contains a variety of renewable and non-renewable resources (4c; *Earth/Space Science*).

SOCIAL STUDIES

Students will demonstrate

- the ability to analyze the potential costs and benefits of economic choices in market economies including wants and needs; scarcity; tradeoffs; and the role of supply and demand, incentives, and prices (5; *Economics*).
- the ability to use maps, mental maps, globes, and other graphic tools and technologies to acquire, process, report, and analyze geographic information (10; *Geography*).
- an understanding of the connections between Earth's physical and human systems; the consequences of the interaction between human and physical systems; and changes in the meaning, use, distribution, and importance of resources (14; *Geography*).
- the ability to apply their knowledge of geographic concepts, skills, and technology to interpret the past and present and to plan for the future (15; *Geography*).

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Activity #2: ENVIRONMENTAL EXCHANGE BOX

SCIENCE

Students will demonstrate an increasing ability to understand

- that science and technology can affect individuals, and that individuals in turn can affect science and technology (2e; *Science, Technology, and Society*).
- how environmental factors affect all living systems (i.e. individuals, community, biome, the biosphere) as well as species interactions (3b; *Life Science*).

SOCIAL STUDIES

Students will demonstrate an understanding of

- the physical and human geographic features that define places and regions (11; *Geography*).
- the connections between Earth's physical and human systems; the consequences of the interaction between human and physical systems; and changes in the meaning, use, distribution, and importance of resources (14; *Geography*).

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Activity #3: TREES AS HABITATS

SCIENCE

Students will demonstrate an increasing ability to

- use technology to observe nature (2b; *Science, Technology, and Society*).
- understand how environmental factors affect all living systems (i.e. individuals, community, biome, the biosphere) as well as species interactions (3b; *Life Science*).

SOCIAL STUDIES

Students will demonstrate an understanding of

- the connections between Earth's physical and human systems; the consequences of the interaction between human and physical systems; and changes in the meaning, use, distribution, and importance of resources (14; *Geography*).

MATHEMATICS

Students will

- recognize, develop, and explore mathematical connections (2b; *Communication and Connections*).
- use data analysis, statistics and probability to analyze given situations and the outcomes of experiments (5a; *Data Analysis, Statistics, and Probability*).

ENGLISH LANGUAGE ARTS

Students will demonstrate

- the interest and ability to speak purposefully and articulately, as well as listen and view attentively and critically (3; *Speaking, Listening, and Viewing*).
- competence in using the interactive language processes of reading, writing, speaking, listening, and viewing to communicate effectively (6; *English Language Uses*).
- competence in applying the interactive language processes of reading, writing, speaking, listening, and viewing to succeed in educational, occupational, civic, social, and everyday settings (7; *English Language Uses*).

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Activity #4: ENERGY SLEUTHS

SCIENCE

Students will demonstrate an increasing ability to understand that

- science and technology can affect individuals, and that individuals in turn can affect science and technology (2e; *Science, Technology, and Society*).
- the Earth contains a variety of renewable and non-renewable resources (4c; *Earth/Space Science*).

SOCIAL STUDIES

Students will demonstrate

- an understanding of the connections between Earth's physical and human systems; the consequences of the interaction between human and physical systems; and changes in the meaning, use, distribution, and importance of resources (14; *Geography*).
- the ability to apply their knowledge of geographic concepts, skills, and technology to interpret the past and present and to plan for the future (15; *Geography*).

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Activity #5: 400-ACRE WOOD

SCIENCE

Students will demonstrate

- an increasing ability to understand that science and technology can affect individuals, and that individuals in turn can affect science and technology (2e; *Science, Technology, and Society*).
- an increasing ability to understand that the Earth contains a variety of renewable and non-renewable resources (4c; *Earth/Space Science*).
- their understanding of the meaning of stability and change and will be able to identify and explain change in terms of cause and effect (6b; *Unifying Themes and Concepts*).

SOCIAL STUDIES

Students will demonstrate

- the ability to analyze the potential costs and benefits of economic choices in market economies including wants and needs; scarcity; tradeoffs; and the role of supply and demand, incentives, and prices (5; *Economics*).
- the ability and willingness to apply economic concepts in the examination and resolution of problems and issues in educational, occupational, civic, and everyday settings (9; *Economics*).
- the ability to use maps, mental maps, globes, and other graphic tools and technologies to acquire, process, report, and analyze geographic information (10; *Geography*).
- an understanding of landform patterns and water systems on Earth's surface; the physical processes that shape these patterns; and the characteristics and distribution of ecosystems (12; *Geography*).
- an understanding of the connections between Earth's physical and human systems; the consequences of the interaction between human and physical systems; and changes in the meaning, use, distribution, and importance of resources (14; *Geography*).
- the ability to apply their knowledge of geographic concepts, skills, and technology to interpret the past and present and to plan for the future (15; *Geography*).

MATHEMATICS

Students will

- use problem-solving strategies to investigate and understand increasingly complex mathematical content (1a; *Problem-Solving and Reasoning*).
- use mathematical reasoning (1b; *Problem-Solving and Reasoning*).
- recognize, develop, and explore mathematical connections (2b; *Communication and Connections*).
- compute (3c; *Numbers, Numeration, Operations, and Number Theory*).

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Activity #6: DEMOCRACY IN ACTION

SOCIAL STUDIES

Students will demonstrate an understanding of

- the fundamental ideals and principles of American democracy; the major provisions of the United States and New Hampshire Constitutions; and the organization and operation of government at all levels including the legislative, executive, and judicial branches (2; *Civics and Government*).
- the meaning, rights, and responsibilities of citizenship as well as the ability to apply their knowledge of the ideals, principles, organization, and operation of American government through the political process and citizen involvement (4; *Civics and Government*).

ENGLISH LANGUAGE ARTS

Students will demonstrate

- the interest and ability to speak purposefully and articulately, as well as listen and view attentively and critically (3; *Speaking, Listening, and Viewing*).
- competence in using the interactive language processes of reading, writing, speaking, listening, and viewing to communicate effectively (6; *English Language Uses*).
- competence in applying the interactive language processes of reading, writing, speaking, listening, and viewing to succeed in educational, occupational, civic, social, and everyday settings (7; *English Language Uses*).

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Activity #7: WATCH ON WETLANDS

SCIENCE

Students will

- demonstrate an increasing ability to use measuring instruments to gather accurate and/or precise information (2a; *Science, Technology, and Society*).
- demonstrate an increasing ability to use technology to observe nature (2b; *Science, Technology, and Society*).
- demonstrate an increasing ability to analyze, synthesize, and communicate scientific information using technology (2c; *Science, Technology, and Society*).
- demonstrate an increasing ability to understand that science and technology can affect individuals, and that individuals in turn can affect science and technology (2e; *Science, Technology, and Society*).
- demonstrate an increasing ability to recognize patterns and products of evolution, including genetic variation, specialization, adaptation, and natural selection (3a; *Life Science*).
- demonstrate an increasing ability to understand how environmental factors affect all living systems (i.e. individuals, community, biome, the biosphere) as well as species interactions (3b; *Life Science*).
- demonstrate an increasing ability to recognize parts of any object or system, and understand how the parts interrelate in the operation of that object or system (6a; *Unifying Themes and Concepts*).
- increasingly quantify their interactions with phenomena in the natural world, use these results to understand differences of scale in objects and systems, and determine how changes in scale affect various properties of those objects and systems (6d; *Unifying Themes and Concepts*).

SOCIAL STUDIES

Students will demonstrate

- an understanding of the fundamental ideals and principles of American democracy; the major provisions of the United States and New Hampshire Constitutions; and the organization and operation of government at all levels including the legislative, executive, and judicial branches (2; *Civics and Government*).
- the ability to use maps, mental maps, globes, and other graphic tools and technologies to acquire, process, report, and analyze geographic information (10; *Geography*).
- an understanding of the physical and human geographic features that define places and regions (11; *Geography*).
- an understanding of landform patterns and water systems on Earth's surface; the physical processes that shape these patterns; and the characteristics and distribution of ecosystems (12; *Geography*).

- an understanding of the connections between Earth's physical and human systems; the consequences of the interaction between human and physical systems; and changes in the meaning, use, distribution, and importance of resources (14; *Geography*).

ENGLISH LANGUAGE ARTS

Students will demonstrate

- the interest and ability to speak purposefully and articulately, as well as listen and view attentively and critically (3; *Speaking, Listening, and Viewing*).
- competence in using the interactive language processes of reading, writing, speaking, listening, and viewing to communicate effectively (6; *English Language Uses*).
- competence in applying the interactive language processes of reading, writing, speaking, listening, and viewing to succeed in educational, occupational, civic, social, and everyday settings (7; *English Language Uses*).

INTRODUCTORY HANDBOOK FOR THE SECONDARY MODULES

ACTIVITY #8: WASTE WATCHERS

SCIENCE

Students will demonstrate an increasing ability to

- use measuring instruments to gather accurate and/or precise information (2a; *Science, Technology, and Society*).
- analyze, synthesize, and communicate scientific information using technology (2c; *Science, Technology, and Society*).
- understand that science and technology can affect individuals, and that individuals in turn can affect science and technology (2e; *Science, Technology, and Society*).
- understand how environmental factors affect all living systems (i.e. individuals, community, biome, the biosphere) as well as species interactions (3b; *Life Science*).
- understand that the Earth contains a variety of renewable and non-renewable resources (4c; *Earth/Space Science*).
- understand the relationships among different types and forms of energy (5c; *Physical Science*).

SOCIAL STUDIES

Students will demonstrate

- an understanding of the connections between Earth's physical and human systems; the consequences of the interaction between human and physical systems; and changes in the meaning, use, distribution, and importance of resources (14; *Geography*).
- the ability to apply their knowledge of geographic concepts, skills, and technology to interpret the past and present and to plan for the future (15; *Geography*).

MATHEMATICS

Students will

- recognize, develop, and explore mathematical connections (2b; *Communication and Connections*).
- compute (3c; *Numbers, Numeration, Operations, and Number Theory*).

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ACTIVITY #9: A LOOK AT LIFESTYLES

SCIENCE

Students will demonstrate

- an increasing ability to understand how environmental factors affect all living systems (i.e. individuals, community, biome, the biosphere) as well as species interactions (3b; *Life Science*).
- an increasing ability to understand that the Earth is a complex planet with five interacting systems, which consists of the solid Earth (lithosphere), air (atmosphere), water (hydrosphere), ice (cryosphere), and life (biosphere) (4b; *Earth/Space Science*).
- an increasing ability to understand that the Earth contains a variety of renewable and non-renewable resources (4c; *Earth/Space Science*).
- their understanding of the meaning of stability and change and will be able to identify and explain change in terms of cause and effect (6b; *Unifying Themes and Concepts*).

SOCIAL STUDIES

Students will demonstrate

- the ability to analyze the potential costs and benefits of economic choices in market economies including wants and needs; scarcity; tradeoffs; and the role of supply and demand, incentives, and prices (5; *Economics*).
- an understanding of the connections between Earth's physical and human systems; the consequences of the interaction between human and physical systems; and changes in the meaning, use, distribution, and importance of resources (14; *Geography*).
- the ability to employ historical analysis, interpretation, and comprehension to make reasoned judgments and to gain an understanding, perspective, and appreciation of history and its uses in contemporary situations (16; *History*).

ENGLISH LANGUAGE ARTS

Students will demonstrate

- the interest and ability to speak purposefully and articulately, as well as listen and view attentively and critically (3; *Speaking, Listening, and Viewing*).
- understanding, appreciating, interpreting, and critically analyzing classical and contemporary American and British literature as well as literary works translated into English (4; *Literature*).
- competence in using the interactive language processes of reading, writing, speaking, listening, and viewing, to gather and organize information in a variety of subject areas (5; *English Language Uses*).
- competence in using the interactive language processes of reading, writing, speaking, listening, and viewing to communicate effectively (6; *English Language Uses*).

- competence in applying the interactive language processes of reading, writing, speaking, listening, and viewing to succeed in educational, occupational, civic, social, and everyday settings (7; *English Language Uses*).

Introductory Handbook for the Secondary Modules

Activity #10: IMPROVE YOUR PLACE

SCIENCE

Students will demonstrate

- an increasing ability to understand that science and technology can affect individuals, and that individuals in turn can affect science and technology (2e; *Science, Technology, and Society*).

SOCIAL STUDIES

Students will demonstrate

- the ability and willingness to apply economic concepts in the examination and resolution of problems and issues in educational, occupational, civic, and everyday settings (9; *Economics*).
- the ability to use maps, mental maps, globes, and other graphic tools and technologies to acquire, process, report, and analyze geographic information (10; *Geography*).
- an understanding of the physical and human geographic features that define places and regions (11; *Geography*).
- an understanding of the connections between Earth's physical and human systems; the consequences of the interaction between human and physical systems; and changes in the meaning, use, distribution, and importance of resources (14; *Geography*).

ENGLISH LANGUAGE ARTS

Students will demonstrate

- the interest and ability to speak purposefully and articulately, as well as listen and view attentively and critically (3; *Speaking, Listening, and Viewing*).
- competence in using the interactive language processes of reading, writing, speaking, listening, and viewing to communicate effectively (6; *English Language Uses*).
- competence in applying the interactive language processes of reading, writing, speaking, listening, and viewing to succeed in educational, occupational, civic, social, and everyday settings (7; *English Language Uses*).

Focus on Forests

Activity #1: WHAT'S A FOREST TO YOU?

SCIENCE

Students will demonstrate an increasing ability to

- understand how environmental factors affect all living systems (i.e. individuals, community, biome, the biosphere) as well as species interactions (3b; *Life Science*).
- understand that the Earth contains a variety of renewable and non-renewable resources (4c; *Earth/Space Science*).
- recognize parts of any object or system, and understand how the parts interrelate in the operation of that object or system (6a; *Unifying Themes and Concepts*).

SOCIAL STUDIES

Students will demonstrate

- an understanding of the connections between Earth's physical and human systems; the consequences of the interaction between human and physical systems; and changes in the meaning, use, distribution, and importance of resources (14; *Geography*).

Focus on Forests

Activity #2: OLD-GROWTH FORESTS

SCIENCE

Students will demonstrate an increasing ability to

- analyze, synthesize, and communicate scientific information using technology (2c; *Science, Technology, and Society*).
- understand that science and technology can affect individuals, and that individuals in turn can affect science and technology (2e; *Science, Technology, and Society*).
- understand how environmental factors affect all living systems (i.e. individuals, community, biome, the biosphere) as well as species interactions (3b; *Life Science*).
- understand that the Earth contains a variety of renewable and non-renewable resources (4c; *Earth/Space Science*).
- recognize parts of any object or system, and understand how the parts interrelate in the operation of that object or system (6a; *Unifying Themes and Concepts*).

SOCIAL STUDIES

Students will demonstrate

- the ability and willingness to apply economic concepts in the examination and resolution of problems and issues in educational, occupational, civic, and everyday settings (9; *Economics*).
- the ability to use maps, mental maps, globes, and other graphic tools and technologies to acquire, process, report, and analyze geographic information (10; *Geography*).
- an understanding of the physical and human geographic features that define places and regions (11; *Geography*).
- an understanding of landform patterns and water systems on Earth's surface; the physical processes that shape these patterns; and the characteristics and distribution of ecosystems (12; *Geography*).
- an understanding of the connections between Earth's physical and human systems; the consequences of the interaction between human and physical systems; and changes in the meaning, use, distribution, and importance of resources (14; *Geography*).
- the ability to apply their knowledge of geographic concepts, skills, and technology to interpret the past and present and to plan for the future (15; *Geography*).

ENGLISH LANGUAGE ARTS

Students will demonstrate competence in

- the interest and ability to write effectively for a variety of purposes and audiences (2; *Writing*).
- the interest and ability to speak purposefully and articulately, as well as listen and view attentively and critically (3; *Speaking, Listening, and Viewing*).

- competence in using the interactive language processes of reading, writing, speaking, listening, and viewing, to gather and organize information in a variety of subject areas (5; *English Language Uses*).
- competence in using the interactive language processes of reading, writing, speaking, listening, and viewing to communicate effectively (6; *English Language Uses*).
- competence in applying the interactive language processes of reading, writing, speaking, listening, and viewing to succeed in educational, occupational, civic, social, and everyday settings (7; *English Language Uses*).

Focus on Forests

Activity #3: TOUGH CHOICES

SCIENCE

Students will demonstrate

- an increasing ability to understand that science and technology can affect individuals, and that individuals in turn can affect science and technology (2e; *Science, Technology, and Society*).

SOCIAL STUDIES

Students will demonstrate

- the ability and willingness to apply economic concepts in the examination and resolution of problems and issues in educational, occupational, civic, and everyday settings (9; *Economics*).

ENGLISH LANGUAGE ARTS

Students will demonstrate competence in

- the interest and ability to speak purposefully and articulately, as well as listen and view attentively and critically (3; *Speaking, Listening, and Viewing*).
- competence in using the interactive language processes of reading, writing, speaking, listening, and viewing, to gather and organize information in a variety of subject areas (5; *English Language Uses*).
- competence in using the interactive language processes of reading, writing, speaking, listening, and viewing to communicate effectively (6; *English Language Uses*).
- competence in applying the interactive language processes of reading, writing, speaking, listening, and viewing to succeed in educational, occupational, civic, social, and everyday settings (7; *English Language Uses*).

Focus on Forests

Activity #4: WHO OWNS AMERICA'S FORESTS?

SOCIAL STUDIES

Students will demonstrate

- the ability and willingness to apply economic concepts in the examination and resolution of problems and issues in educational, occupational, civic, and everyday settings (9; *Economics*).
- an understanding of the physical and human geographic features that define places and regions (11; *Geography*).
- an understanding of the connections between Earth's physical and human systems; the consequences of the interaction between human and physical systems; and changes in the meaning, use, distribution, and importance of resources (14; *Geography*).

MATHEMATICS

Students will

- recognize, develop, and explore mathematical connections (2b; *Communication and Connections*).
- compute (3c; *Numbers, Numeration, Operations, and Number Theory*).
- use data analysis, statistics and probability to analyze given situations and the outcomes of experiments (5a; *Data Analysis, Statistics, and Probability*).
- recognize patterns and describe and represent relations and functions with tables, graphs, equations and rules, and analyze how a change in one element results in a change in another (6a; *Functions, Relations and Algebra*).

Focus on Forests

Activity #5: BALANCING AMERICA'S FORESTS?

SOCIAL STUDIES

Students will demonstrate an understanding of

- the fundamental ideals and principles of American democracy; the major provisions of the United States and New Hampshire Constitutions; and the organization and operation of government at all levels including the legislative, executive, and judicial branches (2; *Civics and Government*).
- the meaning, rights, and responsibilities of citizenship as well as the ability to apply their knowledge of the ideals, principles, organization, and operation of American government through the political process and citizen involvement (4; *Civics and Government*).
- the connections between Earth's physical and human systems; the consequences of the interaction between human and physical systems; and changes in the meaning, use, distribution, and importance of resources (14; *Geography*).

Focus on Forests

Activity #6: SQUIRRELS vs. SCOPES

SOCIAL STUDIES

Students will demonstrate

- an understanding of the fundamental ideals and principles of American democracy; the major provisions of the United States and New Hampshire Constitutions; and the organization and operation of government at all levels including the legislative, executive, and judicial branches (2; *Civics and Government*).
- an understanding of the connections between Earth's physical and human systems; the consequences of the interaction between human and physical systems; and changes in the meaning, use, distribution, and importance of resources (14; *Geography*).
- the ability to apply their knowledge of geographic concepts, skills, and technology to interpret the past and present and to plan for the future (15; *Geography*).

ENGLISH LANGUAGE ARTS

Students will demonstrate

- the interest and ability to speak purposefully and articulately, as well as listen and view attentively and critically (3; *Speaking, Listening, and Viewing*).
- competence in using the interactive language processes of reading, writing, speaking, listening, and viewing, to gather and organize information in a variety of subject areas (5; *English Language Uses*).
- competence in using the interactive language processes of reading, writing, speaking, listening, and viewing to communicate effectively (6; *English Language Uses*).
- competence in applying the interactive language processes of reading, writing, speaking, listening, and viewing to succeed in educational, occupational, civic, social, and everyday settings (7; *English Language Uses*).

Focus on Forests

Activity #7: WORDS TO LIVE BY

SOCIAL STUDIES

Students will demonstrate

- an understanding of the physical and human geographic features that define places and regions (11; *Geography*).
- the ability to employ historical analysis, interpretation, and comprehension to make reasoned judgments and to gain an understanding, perspective, and appreciation of history and its uses in contemporary situations (16; *History*).

ENGLISH LANGUAGE ARTS

Students will demonstrate

- the interest and ability to speak purposefully and articulately, as well as listen and view attentively and critically (3; *Speaking, Listening, and Viewing*).
- competence in understanding, appreciating, interpreting, and critically analyzing classical and contemporary American and British literature as well as literary works translated into English (4; *Literature*).
- competence in using the interactive language processes of reading, writing, speaking, listening, and viewing, to gather and organize information in a variety of subject areas (5; *English Language Uses*).
- competence in applying the interactive language processes of reading, writing, speaking, listening, and viewing to succeed in educational, occupational, civic, social, and everyday settings (7; *English Language Uses*).

Focus on Forests

Activity #8: TAKE ACTION!

SOCIAL STUDIES

Students will demonstrate

- an understanding of the meaning, rights, and responsibilities of citizenship as well as the ability to apply their knowledge of the ideals, principles, organization, and operation of American government through the political process and citizen involvement (4; *Civics and Government*).
- an understanding of the physical and human geographic features that define places and regions (11; *Geography*).
- an understanding of the connections between Earth's physical and human systems; the consequences of the interaction between human and physical systems; and changes in the meaning, use, distribution, and importance of resources (14; *Geography*).

Forest Ecology

ACTIVITY #1: ADOPT-A-FOREST

SCIENCE

Students will demonstrate

- an increasing understanding of how the scientific enterprise operates (1a; *Science as Inquiry*).
- an increasing ability to use technology to observe nature (2b; *Science, Technology, and Society*).
- an increasing ability to analyze, synthesize, and communicate scientific information using technology (2c; *Science, Technology, and Society*).
- an increasing ability to recognize patterns and products of evolution, including genetic variation, specialization, adaptation, and natural selection (3a; *Life Science*).
- an increasing ability to understand how environmental factors affect all living systems (i.e. individuals, community, biome, the biosphere) as well as species interactions (3b; *Life Science*).
- an increasing ability to understand that organisms are linked to one another and to their physical setting by the transfer and transformation of matter and energy to maintain a dynamic equilibrium (3c; *Life Science*).
- an increasing ability to understand that the Earth contains a variety of renewable and non-renewable resources (4c; *Earth/Space Science*).
- an increasing ability to recognize parts of any object or system, and understand how the parts interrelate in the operation of that object or system (6a; *Unifying Themes and Concepts*).

Forest Ecology

Activity #2: CAST OF THOUSANDS

SCIENCE

Students will demonstrate

- an increasing understanding of how the scientific enterprise operates (1a; *Science as Inquiry*).
- an increasing ability to use measuring instruments to gather accurate and/or precise information (2a; *Science, Technology, and Society*).
- an increasing ability to use technology to observe nature (2b; *Science, Technology, and Society*).
- an increasing ability to recognize patterns and products of evolution, including genetic variation, specialization, adaptation, and natural selection (3a; *Life Science*).
- an increasing ability to understand how environmental factors affect all living systems (i.e. individuals, community, biome, the biosphere) as well as species interactions (3b; *Life Science*).
- an increasing ability to recognize parts of any object or system, and understand how the parts interrelate in the operation of that object or system (6a; *Unifying Themes and Concepts*).
- their understanding of the meaning of stability and change and will be able to identify and explain change in terms of cause and effect (6b; *Unifying Themes and Concepts*).

SOCIAL STUDIES

Students will demonstrate

- the ability to use maps, mental maps, globes, and other graphic tools and technologies to acquire, process, report, and analyze geographic information (10; *Geography*).
- an understanding of the physical and human geographic features that define places and regions (11; *Geography*).
- an understanding of landform patterns and water systems on Earth's surface; the physical processes that shape these patterns; and the characteristics and distribution of ecosystems (12; *Geography*).

MATHEMATICS

Students will

- use problem-solving strategies to investigate and understand increasingly complex mathematical content (1a; *Problem-Solving and Reasoning*).
- use mathematical reasoning (1b; *Problem-Solving and Reasoning*).
- recognize, develop, and explore mathematical connections (2b; *Communication and Connections*).
- compute (3c; *Numbers, Numeration, Operations, and Number Theory*).

- use mental computation and estimation skills and strategies and know when it is appropriate to do so (3d; *Numbers, Numeration, Operations, and Number Theory*).
- develop spatial sense (4b; *Geometry, Measurement, and Trigonometry*).
- develop an understanding of measurement and systems of measurement through experiences which enable them to use a variety of techniques, tools, and units of measurement to describe and analyze quantifiable phenomena (4c; *Geometry, Measurement and Trigonometry*).
- know the basic concepts of trigonometry and apply these concepts to real-world problems (4d; *Geometry, Measurement and Trigonometry*).

ENGLISH LANGUAGE ARTS

Students will demonstrate

- the interest and ability to speak purposefully and articulately, as well as listen and view attentively and critically (3; *Speaking, Listening, and Viewing*).
- competence in using the interactive language processes of reading, writing, speaking, listening, and viewing, to gather and organize information in a variety of subject areas (5; *English Language Uses*).
- competence in using the interactive language processes of reading, writing, speaking, listening, and viewing to communicate effectively (6; *English Language Uses*).
- competence in applying the interactive language processes of reading, writing, speaking, listening, and viewing to succeed in educational, occupational, civic, social, and everyday settings (7; *English Language Uses*).

Forest Ecology

Activity #3: THE NATURE OF PLANTS

SCIENCE

Students will demonstrate

- an increasing understanding of how the scientific enterprise operates (1a; *Science as Inquiry*).
- an increasing ability to understand how environmental factors affect all living systems (i.e. *individuals, community, biome, the biosphere*) as well as *species interactions* (3b; *Life Science*).
- an increasing ability to understand that organisms are linked to one another and to their physical setting by the transfer and transformation of matter and energy to maintain a dynamic equilibrium (3c; *Life Science*).
- an increasing ability to understand that the Earth contains a variety of renewable and non-renewable resources (4c; *Earth/Space Science*).
- an increasing ability to recognize parts of any object or system, and understand how the parts interrelate in the operation of that object or system (6a; *Unifying Themes and Concepts*).
- their understanding of the meaning of stability and change and will be able to identify and explain change in terms of cause and effect (6b; *Unifying Themes and Concepts*).

Forest Ecology

Activity #4: HOME SWEET HOME

SCIENCE

Students will demonstrate

- an increasing ability to understand that science and technology can affect individuals, and that individuals in turn can affect science and technology (2e; *Science, Technology, and Society*).
- an increasing ability to understand how environmental factors affect all living systems (i.e. individuals, community, biome, the biosphere) as well as species interactions (3b; *Life Science*).
- an increasing ability to understand that the Earth contains a variety of renewable and non-renewable resources (4c; *Earth/Space Science*).
- an increasing ability to recognize parts of any object or system, and understand how the parts interrelate in the operation of that object or system (6a; *Unifying Themes and Concepts*).
- their understanding of the meaning of stability and change and will be able to identify and explain change in terms of cause and effect (6b; *Unifying Themes and Concepts*).

SOCIAL STUDIES

Students will demonstrate

- the ability and willingness to apply economic concepts in the examination and resolution of problems and issues in educational, occupational, civic, and everyday settings (9; *Economics*).
- an understanding of the physical and human geographic features that define places and regions (11; *Geography*).
- an understanding of the connections between Earth's physical and human systems; the consequences of the interaction between human and physical systems; and changes in the meaning, use, distribution, and importance of resources (14; *Geography*).

Forest Ecology

Activity #5: SAGA OF THE GYPSY MOTH

SCIENCE

Students will demonstrate

- an increasing ability to understand that science and technology can affect individuals, and that individuals in turn can affect science and technology (2e; *Science, Technology, and Society*).
- an increasing ability to recognize patterns and products of evolution, including genetic variation, specialization, adaptation, and natural selection (3a; *Life Science*).
- their understanding of the meaning of stability and change and will be able to identify and explain change in terms of cause and effect (6b; *Unifying Themes and Concepts*).

SOCIAL STUDIES

Students will demonstrate

- the ability and willingness to apply economic concepts in the examination and resolution of problems and issues in educational, occupational, civic, and everyday settings (9; *Economics*).
- an understanding of the connections between Earth's physical and human systems; the consequences of the interaction between human and physical systems; and changes in the meaning, use, distribution, and importance of resources (14; *Geography*).
- the ability to employ historical analysis, interpretation, and comprehension to make reasoned judgments and to gain an understanding, perspective, and appreciation of history and its uses in contemporary situations (16; *History*).

ENGLISH LANGUAGE ARTS

Students will demonstrate

- the interest and ability to speak purposefully and articulately, as well as listen and view attentively and critically (3; *Speaking, Listening, and Viewing*).
- competence in using the interactive language processes of reading, writing, speaking, listening, and viewing to communicate effectively (6; *English Language Uses*).
- competence in applying the interactive language processes of reading, writing, speaking, listening, and viewing to succeed in educational, occupational, civic, social, and everyday settings (7; *English Language Uses*).

Forest Ecology

Activity #6: STORY OF SUCCESSION

SCIENCE

Students will

- demonstrate an increasing ability to analyze, synthesize, and communicate scientific information using technology (2c; *Science, Technology, and Society*).
- demonstrate an increasing ability to understand how environmental factors affect all living systems (i.e. individuals, community, biome, the biosphere) as well as species interactions (3b; *Life Science*).
- demonstrate an increasing ability to understand that the Earth contains a variety of renewable and non-renewable resources (4c; *Earth/Space Science*).
- demonstrate an increasing ability to recognize parts of any object or system, and understand how the parts interrelate in the operation of that object or system (6a; *Unifying Themes and Concepts*).
- demonstrate their understanding of the meaning of stability and change and will be able to identify and explain change in terms of cause and effect (6b; *Unifying Themes and Concepts*).
- understand the meaning of models, their appropriate use and limitations, and how models can help them in understanding the natural world (6c; *Unifying Themes and Concepts*).
- increasingly quantify their interactions with phenomena in the natural world, use these results to understand differences of scale in objects and systems, and determine how changes in scale affect various properties of those objects and systems (6d; *Unifying Themes and Concepts*).

MATHEMATICS

Students will

- recognize, develop, and explore mathematical connections (2b; *Communication and Connections*).
- develop an understanding of measurement and systems of measurement through experiences which enable them to use a variety of techniques, tools, and units of measurement to describe and analyze quantifiable phenomena (4c; *Geometry, Measurement and Trigonometry*).
- use data analysis, statistics and probability to analyze given situations and the outcomes of experiments (5a; *Data Analysis, Statistics, and Probability*).

Forest Ecology

Activity #7: UNDERSTANDING FIRE

SCIENCE

Students will demonstrate

- an increasing ability to understand that science and technology can affect individuals, and that individuals in turn can affect science and technology (2e; *Science, Technology, and Society*).
- an increasing ability to understand that progress in science and technology is controlled by societal attitudes and beliefs (2f; *Science, Technology, and Society*).
- an increasing ability to recognize patterns and products of evolution, including genetic variation, specialization, adaptation, and natural selection (3a; *Life Science*).
- an increasing ability to understand how environmental factors affect all living systems (i.e. individuals, community, biome, the biosphere) as well as species interactions (3b; *Life Science*).
- an increasing ability to understand that the Earth contains a variety of renewable and non-renewable resources (4c; *Earth/Space Science*).
- an increasing ability to recognize parts of any object or system, and understand how the parts interrelate in the operation of that object or system (6a; *Unifying Themes and Concepts*).
- their understanding of the meaning of stability and change and will be able to identify and explain change in terms of cause and effect (6b; *Unifying Themes and Concepts*).

SOCIAL STUDIES

Students will demonstrate

- the ability and willingness to apply economic concepts in the examination and resolution of problems and issues in educational, occupational, civic, and everyday settings (9; *Economics*).
- an understanding of landform patterns and water systems on Earth's surface; the physical processes that shape these patterns; and the characteristics and distribution of ecosystems (12; *Geography*).
- an understanding of the connections between Earth's physical and human systems; the consequences of the interaction between human and physical systems; and changes in the meaning, use, distribution, and importance of resources (14; *Geography*).
- the ability to apply their knowledge of geographic concepts, skills, and technology to interpret the past and present and to plan for the future (15; *Geography*).
- the ability to employ historical analysis, interpretation, and comprehension to make reasoned judgments and to gain an understanding, perspective, and appreciation of history and its uses in contemporary situations (16; *History*).

MATHEMATICS

Students will

- recognize, develop, and explore mathematical connections (2b; *Communication and Connections*).
- Students will compute (3c; *Numbers, Numeration, Operations, and Number Theory*).

Forest Ecology

Activity #8: FIRE MANAGEMENT

SCIENCE

Students will

- demonstrate an increasing ability to understand that science and technology can affect individuals, and that individuals in turn can affect science and technology (2e; *Science, Technology, and Society*).
- demonstrate an increasing ability to understand that progress in science and technology is controlled by societal attitudes and beliefs (2f; *Science, Technology, and Society*).
- demonstrate an increasing ability to recognize patterns and products of evolution, including genetic variation, specialization, adaptation, and natural selection (3a; *Life Science*).
- demonstrate an increasing ability to understand how environmental factors affect all living systems (i.e. individuals, community, biome, the biosphere) as well as species interactions (3b; *Life Science*).
- demonstrate an increasing ability to understand that the Earth contains a variety of renewable and non-renewable resources (4c; *Earth/Space Science*).
- demonstrate an increasing ability to recognize parts of any object or system, and understand how the parts interrelate in the operation of that object or system (6a; *Unifying Themes and Concepts*).
- demonstrate their understanding of the meaning of stability and change and will be able to identify and explain change in terms of cause and effect (6b; *Unifying Themes and Concepts*).
- understand the meaning of models, their appropriate use and limitations, and how models can help them in understanding the natural world (6c; *Unifying Themes and Concepts*).

SOCIAL STUDIES

Students will demonstrate

- an understanding of the purpose of government and how government is established and organized (1; *Civics and Government*).
- the ability and willingness to apply economic concepts in the examination and resolution of problems and issues in educational, occupational, civic, and everyday settings (9; *Economics*).
- an understanding of landform patterns and water systems on Earth's surface; the physical processes that shape these patterns; and the characteristics and distribution of ecosystems (12; *Geography*).
- an understanding of the connections between Earth's physical and human systems; the consequences of the interaction between human and physical systems; and changes in the meaning, use, distribution, and importance of resources (14; *Geography*).
- the ability to apply their knowledge of geographic concepts, skills, and technology to

interpret the past and present and to plan for the future (15; *Geography*).

- the ability to employ historical analysis, interpretation, and comprehension to make reasoned judgments and to gain an understanding, perspective, and appreciation of history and its uses in contemporary situations (16; *History*).

Municipal Solid Waste

Activity #1: THE WASTE STREAM

SCIENCE

Students will demonstrate

- an increasing understanding of how the scientific enterprise operates (1a; *Science as Inquiry*).
- an increasing ability to understand that science and technology can affect individuals, and that individuals in turn can affect science and technology (2e; *Science, Technology, and Society*).
- an increasing ability to understand that progress in science and technology is controlled by societal attitudes and beliefs (2f; *Science, Technology, and Society*).
- an increasing ability to understand how environmental factors affect all living systems (i.e. individuals, community, biome, the biosphere) as well as species interactions (3b; *Life Science*).
- an increasing ability to understand that the Earth contains a variety of renewable and non-renewable resources (4c; *Earth/Space Science*).

SOCIAL STUDIES

Students will demonstrate

- an understanding of the connections between Earth's physical and human systems; the consequences of the interaction between human and physical systems; and changes in the meaning, use, distribution, and importance of resources (14; *Geography*).
- the ability to apply their knowledge of geographic concepts, skills, and technology to interpret the past and present and to plan for the future (15; *Geography*).
- the ability to employ historical analysis, interpretation, and comprehension to make reasoned judgments and to gain an understanding, perspective, and appreciation of history and its uses in contemporary situations (16; *History*).

MATHEMATICS

Students will

- use problem-solving strategies to investigate and understand increasingly complex mathematical content (1a; *Problem-Solving and Reasoning*).
- recognize, develop, and explore mathematical connections (2b; *Communication and Connections*).
- compute (3c; *Numbers, Numeration, Operations, and Number Theory*).
- use data analysis, statistics and probability to analyze given situations and the outcomes of experiments (5a; *Data Analysis, Statistics, and Probability*).

ENGLISH LANGUAGE ARTS

Students will demonstrate

- the interest and ability to speak purposefully and articulately, as well as listen and view attentively and critically (3; *Speaking, Listening, and Viewing*).
- competence in using the interactive language processes of reading, writing, speaking, listening, and viewing, to gather and organize information in a variety of subject areas (5; *English Language Uses*).
- competence in using the interactive language processes of reading, writing, speaking, listening, and viewing to communicate effectively (6; *English Language Uses*).
- competence in applying the interactive language processes of reading, writing, speaking, listening, and viewing to succeed in educational, occupational, civic, social, and everyday settings (7; *English Language Uses*).

Municipal Solid Waste

Activity #2: SOURCE REDUCTION

SCIENCE

Students will demonstrate an increasing ability to

- understand that science and technology can affect individuals, and that individuals in turn can affect science and technology (2e; *Science, Technology, and Society*).
- understand that progress in science and technology is controlled by societal attitudes and beliefs (2f; *Science, Technology, and Society*).
- understand that the Earth contains a variety of renewable and non-renewable resources (4c; *Earth/Space Science*).
- understand the relationships among different types and forms of energy (5c; *Physical Science*).
- recognize parts of any object or system, and understand how the parts interrelate in the operation of that object or system (6a; *Unifying Themes and Concepts*).

SOCIAL STUDIES

Students will demonstrate

- the ability to analyze the potential costs and benefits of economic choices in market economies including wants and needs; scarcity; tradeoffs; and the role of supply and demand, incentives, and prices (5; *Economics*).
- the ability and willingness to apply economic concepts in the examination and resolution of problems and issues in educational, occupational, civic, and everyday settings (9; *Economics*).
- an understanding of the connections between Earth's physical and human systems; the consequences of the interaction between human and physical systems; and changes in the meaning, use, distribution, and importance of resources (14; *Geography*).

Municipal Solid Waste

Activity #3: RECYCLING AND ECONOMICS

SCIENCE

Students will demonstrate an increasing ability to

- analyze, synthesize, and communicate scientific information using technology (2c; *Science, Technology, and Society*).
- understand that science and technology can affect individuals, and that individuals in turn can affect science and technology (2e; *Science, Technology, and Society*).
- understand that progress in science and technology is controlled by societal attitudes and beliefs (2f; *Science, Technology, and Society*).
- understand that the Earth contains a variety of renewable and non-renewable resources (4c; *Earth/Space Science*).

SOCIAL STUDIES

Students will demonstrate

- the ability to analyze the potential costs and benefits of economic choices in market economies including wants and needs; scarcity; tradeoffs; and the role of supply and demand, incentives, and prices (5; *Economics*).
- the ability to examine the interaction of individuals, households, communities, businesses, and governments in market economies including competition; specialization; productivity; traditional forms of enterprise; and the role of money and financial institutions (6; *Economics*).
- the ability and willingness to apply economic concepts in the examination and resolution of problems and issues in educational, occupational, civic, and everyday settings (9; *Economics*).
- an understanding of the connections between Earth's physical and human systems; the consequences of the interaction between human and physical systems; and changes in the meaning, use, distribution, and importance of resources (14; *Geography*).
- the ability to apply their knowledge of geographic concepts, skills, and technology to interpret the past and present and to plan for the future (15; *Geography*).
- the ability to employ historical analysis, interpretation, and comprehension to make reasoned judgments and to gain an understanding, perspective, and appreciation of history and its uses in contemporary situations (16; *History*).

MATHEMATICS

Students will

- use problem-solving strategies to investigate and understand increasingly complex mathematical content (1a; *Problem-Solving and Reasoning*).
- compute (3c; *Numbers, Numeration, Operations, and Number Theory*).

- use data analysis, statistics and probability to analyze given situations and the outcomes of experiments (5a; *Data Analysis, Statistics, and Probability*).
- use algebraic concepts and processes to represent situations that involve variable quantities with expressions, equations, inequalities, matrices and graphs (6b; *Functions, Relations and Algebra*).

Municipal Solid Waste

Activity #4: COMPOSTING

SCIENCE

Students will demonstrate

- an increasing ability to use measuring instruments to gather accurate and/or precise information (2a; *Science, Technology, and Society*).
- an increasing ability to use technology to observe nature (2b; *Science, Technology, and Society*).
- an increasing ability to analyze, synthesize, and communicate scientific information using technology (2c; *Science, Technology, and Society*).
- an increasing ability to understand that science and technology can affect individuals, and that individuals in turn can affect science and technology (2e; *Science, Technology, and Society*).
- an increasing ability to recognize patterns and products of evolution, including genetic variation, specialization, adaptation, and natural selection (3a; *Life Science*).
- an increasing ability to understand how environmental factors affect all living systems (i.e. individuals, community, biome, the biosphere) as well as species interactions (3b; *Life Science*).
- an increasing ability to understand that organisms are linked to one another and to their physical setting by the transfer and transformation of matter and energy to maintain a dynamic equilibrium (3c; *Life Science*).
- their understanding of the meaning of stability and change and will be able to identify and explain change in terms of cause and effect (6b; *Unifying Themes and Concepts*).

MATHEMATICS

Students will

- recognize, develop, and explore mathematical connections (2b; *Communication and Connections*).
- develop spatial sense (4b; *Geometry, Measurement, and Trigonometry*).
- develop an understanding of measurement and systems of measurement through experiences which enable them to use a variety of techniques, tools, and units of measurement to describe and analyze quantifiable phenomena (4c; *Geometry, Measurement and Trigonometry*).
- use data analysis, statistics and probability to analyze given situations and the outcomes of experiments (5a; *Data Analysis, Statistics, and Probability*).

Municipal Solid Waste

Activity #5: WASTE-TO-ENERGY

SCIENCE

Students will demonstrate an increasing ability to

- understand how technology is used to synthesize new products (2d; *Science, Technology, and Society*).
- understand that science and technology can affect individuals, and that individuals in turn can affect science and technology (2e; *Science, Technology, and Society*).
- understand that progress in science and technology is controlled by societal attitudes and beliefs (2f; *Science, Technology, and Society*).
- understand the relationships among different types and forms of energy (5c; *Physical Science*).
- recognize parts of any object or system, and understand how the parts interrelate in the operation of that object or system (6a; *Unifying Themes and Concepts*).

SOCIAL STUDIES

Students will demonstrate

- an understanding of the meaning, rights, and responsibilities of citizenship as well as the ability to apply their knowledge of the ideals, principles, organization, and operation of American government through the political process and citizen involvement (4; *Civics and Government*).
- the ability to analyze the potential costs and benefits of economic choices in market economies including wants and needs; scarcity; tradeoffs; and the role of supply and demand, incentives, and prices (5; *Economics*).
- the ability and willingness to apply economic concepts in the examination and resolution of problems and issues in educational, occupational, civic, and everyday settings (9; *Economics*).
- an understanding of the connections between Earth's physical and human systems; the consequences of the interaction between human and physical systems; and changes in the meaning, use, distribution, and importance of resources (14; *Geography*).
- the ability to apply their knowledge of geographic concepts, skills, and technology to interpret the past and present and to plan for the future (15; *Geography*).

ENGLISH LANGUAGE ARTS

Students will demonstrate

- the interest and ability to speak purposefully and articulately, as well as listen and view attentively and critically (3; *Speaking, Listening, and Viewing*).

- competence in using the interactive language processes of reading, writing, speaking, listening, and viewing, to gather and organize information in a variety of subject areas (5; *English Language Uses*).
- competence in using the interactive language processes of reading, writing, speaking, listening, and viewing to communicate effectively (6; *English Language Uses*).
- competence in applying the interactive language processes of reading, writing, speaking, listening, and viewing to succeed in educational, occupational, civic, social, and everyday settings (7; *English Language Uses*).

Municipal Solid Waste

Activity #6: LANDFILLS

SCIENCE

Students will

- demonstrate an increasing understanding of how the scientific enterprise operates (1a; *Science as Inquiry*).
- demonstrate an increasing ability to understand that science and technology can affect individuals, and that individuals in turn can affect science and technology (2e; *Science, Technology, and Society*).
- demonstrate an increasing ability to understand that progress in science and technology is controlled by societal attitudes and beliefs (2f; *Science, Technology, and Society*).
- demonstrate an increasing ability to understand how environmental factors affect all living systems (i.e. individuals, community, biome, the biosphere) as well as species interactions (3b; *Life Science*).
- demonstrate an increasing ability to understand that the Earth contains a variety of renewable and non-renewable resources (4c; *Earth/Space Science*).
- demonstrate their understanding of the meaning of stability and change and will be able to identify and explain change in terms of cause and effect (6b; *Unifying Themes and Concepts*).
- understand the meaning of models, their appropriate use and limitations, and how models can help them in understanding the natural world (6c; *Unifying Themes and Concepts*).

SOCIAL STUDIES

Students will demonstrate

- an understanding of the purpose of government and how government is established and organized (1; *Civics and Government*).
- the ability and willingness to apply economic concepts in the examination and resolution of problems and issues in educational, occupational, civic, and everyday settings (9; *Economics*).
- an understanding of the connections between Earth's physical and human systems; the consequences of the interaction between human and physical systems; and changes in the meaning, use, distribution, and importance of resources (14; *Geography*).
- the ability to apply their knowledge of geographic concepts, skills, and technology to interpret the past and present and to plan for the future (15; *Geography*).

Municipal Solid Waste

Activity #7: WHERE DOES YOUR GARBAGE GO?

SCIENCE

Students will demonstrate

- an increasing understanding of how the scientific enterprise operates (1a; *Science as Inquiry*).
- an increasing ability to analyze, synthesize, and communicate scientific information using technology (2c; *Science, Technology, and Society*).
- an increasing ability to understand that science and technology can affect individuals, and that individuals in turn can affect science and technology (2e; *Science, Technology, and Society*).
- an increasing ability to understand that progress in science and technology is controlled by societal attitudes and beliefs (2f; *Science, Technology, and Society*).
- an increasing ability to recognize parts of any object or system, and understand how the parts interrelate in the operation of that object or system (6a; *Unifying Themes and Concepts*).

MATHEMATICS

Students will

- recognize, develop, and explore mathematical connections (2b; *Communication and Connections*).
- use data analysis, statistics and probability to analyze given situations and the outcomes of experiments (5a; *Data Analysis, Statistics, and Probability*).

Municipal Solid Waste

Activity #8: SUCCESS STORIES & PERSONAL CHOICES

SCIENCE

Students will demonstrate

- an increasing understanding of how the scientific enterprise operates (1a; *Science as Inquiry*).
- an increasing ability to understand that science and technology can affect individuals, and that individuals in turn can affect science and technology (2e; *Science, Technology, and Society*).
- an increasing ability to understand that progress in science and technology is controlled by societal attitudes and beliefs (2f; *Science, Technology, and Society*).
- an increasing ability to understand that the Earth contains a variety of renewable and non-renewable resources (4c; *Earth/Space Science*).
- their understanding of the meaning of stability and change and will be able to identify and explain change in terms of cause and effect (6b; *Unifying Themes and Concepts*).

SOCIAL STUDIES

Students will demonstrate an understanding of

- the meaning, rights, and responsibilities of citizenship as well as the ability to apply their knowledge of the ideals, principles, organization, and operation of American government through the political process and citizen involvement (4; *Civics and Government*).
- the connections between Earth's physical and human systems; the consequences of the interaction between human and physical systems; and changes in the meaning, use, distribution, and importance of resources (14; *Geography*).

MATHEMATICS

Students will

- recognize, develop, and explore mathematical connections (2b; *Communication and Connections*).
- use data analysis, statistics and probability to analyze given situations and the outcomes of experiments (5a; *Data Analysis, Statistics, and Probability*).

Focus on Risk

Activity #1: WHAT IS RISK?

SCIENCE

Students will demonstrate

- an increasing ability to understand that science and technology can affect individuals, and that individuals in turn can affect science and technology (2e; *Science, Technology, and Society*).

ENGLISH LANGUAGE ARTS

Students will demonstrate

- the interest and ability to speak purposefully and articulately, as well as listen and view attentively and critically (3; *Speaking, Listening, and Viewing*).
- competence in using the interactive language processes of reading, writing, speaking, listening, and viewing to communicate effectively (6; *English Language Uses*).
- competence in applying the interactive language processes of reading, writing, speaking, listening, and viewing to succeed in educational, occupational, civic, social, and everyday settings (7; *English Language Uses*).

Focus on Risk

Activity #2: THINGS AREN'T ALWAYS WHAT THEY SEEM

SCIENCE

Students will demonstrate an increasing ability to understand that

- science and technology can affect individuals, and that individuals in turn can affect science and technology (2e; *Science, Technology, and Society*).
- progress in science and technology is controlled by societal attitudes and beliefs (2f; *Science, Technology, and Society*).

SOCIAL STUDIES

Students will demonstrate

- the ability to analyze the potential costs and benefits of economic choices in market economies including wants and needs; scarcity; tradeoffs; and the role of supply and demand, incentives, and prices (5; *Economics*).

Focus on Risk

Activity #3: CHANCES ARE . . . UNDERSTANDING PROBABILITY AND RISK

SCIENCE

Students will

- demonstrate an increasing understanding of how the scientific enterprise operates (1a; *Science as Inquiry*).
- understand the meaning of models, their appropriate use and limitations, and how models can help them in understanding the natural world (6c; *Unifying Themes and Concepts*).

MATHEMATICS

Students will

- use problem-solving strategies to investigate and understand increasingly complex mathematical content (1a; *Problem-Solving and Reasoning*).
- recognize, develop, and explore mathematical connections (2b; *Communication and Connections*).
- compute (3c; *Numbers, Numeration, Operations, and Number Theory*).
- use data analysis, statistics and probability to analyze given situations and the outcomes of experiments (5a; *Data Analysis, Statistics, and Probability*).
- recognize patterns and describe and represent relations and functions with tables, graphs, equations and rules, and analyze how a change in one element results in a change in another (6a; *Functions, Relations and Algebra*).
- be able to use concepts about mathematical change in analyzing patterns, graphs, and applied situations (7a; *Mathematics of Change*).
- use a variety of tools from discrete mathematics to explore and model real-world situations (8a; *Discrete Mathematics*).

Focus on Risk

Activity #4: RISK ASSESSMENT: TOOLS OF THE TRADE

SCIENCE

Students will

- demonstrate an increasing ability to understand that science and technology can affect individuals, and that individuals in turn can affect science and technology (2e; *Science, Technology, and Society*).
- demonstrate an increasing ability to understand that progress in science and technology is controlled by societal attitudes and beliefs (2f; *Science, Technology, and Society*).
- Students will demonstrate an increasing ability to recognize parts of any object or system, and understand how the parts interrelate in the operation of that object or system (6a; *Unifying Themes and Concepts*).
- demonstrate their understanding of the meaning of stability and change and will be able to identify and explain change in terms of cause and effect (6b; *Unifying Themes and Concepts*).
- understand the meaning of models, their appropriate use and limitations, and how models can help them in understanding the natural world (6c; *Unifying Themes and Concepts*).

MATHEMATICS

Students will

- use problem-solving strategies to investigate and understand increasingly complex mathematical content (1a; *Problem-Solving and Reasoning*).
- recognize, develop, and explore mathematical connections (2b; *Communication and Connections*).
- use data analysis, statistics and probability to analyze given situations and the outcomes of experiments (5a; *Data Analysis, Statistics, and Probability*).
- recognize patterns and describe and represent relations and functions with tables, graphs, equations and rules, and analyze how a change in one element results in a change in another (6a; *Functions, Relations and Algebra*).
- be able to use concepts about mathematical change in analyzing patterns, graphs, and applied situations (7a; *Mathematics of Change*).
- use a variety of tools from discrete mathematics to explore and model real-world situations (8a; *Discrete Mathematics*).

ENGLISH LANGUAGE ARTS

Students will demonstrate

- the interest and ability to speak purposefully and articulately, as well as listen and view attentively and critically (3; *Speaking, Listening, and Viewing*).

- competence in using the interactive language processes of reading, writing, speaking, listening, and viewing to communicate effectively (6; *English Language Uses*).
- competence in applying the interactive language processes of reading, writing, speaking, listening, and viewing to succeed in educational, occupational, civic, social, and everyday settings (7; *English Language Uses*).

Focus on Risk

Activity #5: COMMUNICATING RISK

SCIENCE

Students will demonstrate an increasing ability to

- analyze, synthesize, and communicate scientific information using technology (2c; *Science, Technology, and Society*).
- understand that science and technology affects individuals, and that individuals in turn can affect science and technology (2e; *Science, Technology, and Society*).
- understand that progress in science and technology is controlled by societal attitudes and beliefs (2f; *Science, Technology, and Society*).

SOCIAL STUDIES

Students will demonstrate

- the ability and willingness to apply economic concepts in the examination and resolution of problems and issues in educational, occupational, civic, and everyday settings (9; *Economics*).

MATHEMATICS

Students will

- recognize, develop, and explore mathematical connections (2b; *Communication and Connections*).
- develop an understanding of measurement and systems of measurement through experiences which enable them to use a variety of techniques, tools, and units of measurement to describe and analyze quantifiable phenomena (4c; *Geometry, Measurement and Trigonometry*).

ENGLISH LANGUAGE ARTS

Students will demonstrate

- the interest and ability to write effectively for a variety of purposes and audiences (2; *Writing*).
- the interest and ability to speak purposefully and articulately, as well as listen and view attentively and critically (3; *Speaking, Listening, and Viewing*).
- competence in applying the interactive language processes of reading, writing, speaking, listening, and viewing to succeed in educational, occupational, civic, social, and everyday settings (7; *English Language Uses*).

Focus on Risk

Activity #6: WEIGHING THE OPTIONS: A LOOK AT TRADEOFFS

SCIENCE

Students will demonstrate

- an increasing understanding of how the scientific enterprise operates (1a; *Science as Inquiry*).
- an increasing ability to understand that science and technology affects individuals, and that individuals in turn can affect science and technology (2e; *Science, Technology, and Society*).

SOCIAL STUDIES

Students will demonstrate

- the ability to analyze the potential costs and benefits of economic choices in market economies including wants and needs; scarcity; tradeoffs; and the role of supply and demand, incentives, and prices (5; *Economics*).
- the ability and willingness to apply economic concepts in the examination and resolution of problems and issues in educational, occupational, civic, and everyday settings (9; *Economics*).

ENGLISH LANGUAGE ARTS

Students will demonstrate

- the interest and ability to speak purposefully and articulately, as well as listen and view attentively and critically (3; *Speaking, Listening, and Viewing*).
- competence in using the interactive language processes of reading, writing, speaking, listening, and viewing to communicate effectively (6; *English Language Uses*).
- competence in applying the interactive language processes of reading, writing, speaking, listening, and viewing to succeed in educational, occupational, civic, social, and everyday settings (7; *English Language Uses*).

Focus on Risk

Activity #7: ECOLOGICAL RISK, NATURAL HAZARDS, AND DECISION MAKING

SCIENCE

Students will demonstrate an increasing ability to understand

- that science and technology affects individuals, and that individuals in turn can affect science and technology (2e; *Science, Technology, and Society*).
- that progress in science and technology is controlled by societal attitudes and beliefs (2f; *Science, Technology, and Society*).
- how environmental factors affect all living systems (i.e. individuals, community, biome, the biosphere) as well as species interactions (3b; *Life Science*).
- that the Earth contains a variety of renewable and non-renewable resources (4c; *Earth/Space Science*).

SOCIAL STUDIES

Students will demonstrate

- the ability to use maps, mental maps, globes, and other graphic tools and technologies to acquire, process, report, and analyze geographic information (10; *Geography*).

Focus on Risk

Case Study: ELECTROMAGNETIC FIELDS

SCIENCE

Students will

- demonstrate an increasing understanding of how the scientific enterprise operates (1a; *Science as Inquiry*).
- demonstrate an increasing ability to use measuring instruments to gather accurate and/or precise information (2a; *Science, Technology, and Society*).
- demonstrate an increasing ability to understand that science and technology affects individuals, and that individuals in turn can affect science and technology (2e; *Science, Technology, and Society*).
- demonstrate an increasing understanding of how electrical and magnetic systems interact with matter and energy (5d; *Physical Science*).
- demonstrate an increasing understanding of how an unbalanced force exerted on an object causes a change in the state of rest or motion of that object in the direction of the unbalanced force (5e; *Physical Science*).
- increasingly quantify their interactions with phenomena in the natural world, use these results to understand differences of scale in objects and systems, and determine how changes in scale affect various properties of those objects and systems (6d; *Unifying Themes and Concepts*).

SOCIAL STUDIES

Students will demonstrate

- an understanding of the meaning, rights, and responsibilities of citizenship as well as the ability to apply their knowledge of the ideals, principles, organization, and operation of American government through the political process and citizen involvement (4; *Civics and Government*).
- the ability to analyze the potential costs and benefits of economic choices in market economies including wants and needs; scarcity; tradeoffs; and the role of supply and demand, incentives, and prices (5; *Economics*).
- the ability and willingness to apply economic concepts in the examination and resolution of problems and issues in educational, occupational, civic, and everyday settings (9; *Economics*).

Focus on Risk

Case Study: CHLORINE

SCIENCE

Students will demonstrate

- an increasing understanding of how the scientific enterprise operates (1a; *Science as Inquiry*).
- an increasing ability to understand that science and technology affects individuals, and that individuals in turn can affect science and technology (2e; *Science, Technology, and Society*).
- an increasing ability to understand how environmental factors affect all living systems (i.e. individuals, community, biome, the biosphere) as well as species interactions (3b; *Life Science*).
- an increasing ability to understand that the Earth contains a variety of renewable and non-renewable resources (4c; *Earth/Space Science*).
- an increasing ability to distinguish among materials by utilizing observable properties (5a; *Physical Science*).
- their understanding of the meaning of stability and change and will be able to identify and explain change in terms of cause and effect (6b; *Unifying Themes and Concepts*).

ENGLISH LANGUAGE ARTS

Students will demonstrate

- the interest and ability to speak purposefully and articulately, as well as listen and view attentively and critically (3; *Speaking, Listening, and Viewing*).
- competence in using the interactive language processes of reading, writing, speaking, listening, and viewing, to gather and organize information in a variety of subject areas (5; *English Language Uses*).
- competence in using the interactive language processes of reading, writing, speaking, listening, and viewing to communicate effectively (6; *English Language Uses*).
- competence in applying the interactive language processes of reading, writing, speaking, listening, and viewing to succeed in educational, occupational, civic, social, and everyday settings (7; *English Language Uses*).

Focus on Risk

Case Study: PLASTICS

SCIENCE

Students will demonstrate

- an increasing understanding of how the scientific enterprise operates (1a; *Science as Inquiry*).
- an increasing ability to understand that science and technology affects individuals, and that individuals in turn can affect science and technology (2e; *Science, Technology, and Society*).
- an increasing ability to understand that progress in science and technology is controlled by societal attitudes and beliefs (2f; *Science, Technology, and Society*).
- an increasing ability to understand how environmental factors affect all living systems (i.e. individuals, community, biome, the biosphere) as well as species interactions (3b; *Life Science*).
- an increasing ability to understand that the Earth contains a variety of renewable and non-renewable resources (4c; *Earth/Space Science*).
- an increasing ability to distinguish among materials by utilizing observable properties (5a; *Physical Science*).

SOCIAL STUDIES

Students will demonstrate

- the ability to analyze the potential costs and benefits of economic choices in market economies including wants and needs; scarcity; tradeoffs; and the role of supply and demand, incentives, and prices (5; *Economics*).
- the ability and willingness to apply economic concepts in the examination and resolution of problems and issues in educational, occupational, civic, and everyday settings (9; *Economics*).
- an understanding of the connections between Earth's physical and human systems; the consequences of the interaction between human and physical systems; and changes in the meaning, use, distribution, and importance of resources (14; *Geography*).

Focus on Risk

Activity #8: TAKING ACTION: REDUCING RISK IN YOUR SCHOOL/COMMUNITY

SCIENCE

Students will demonstrate

- an increasing understanding of how the scientific enterprise operates (1a; *Science as Inquiry*).
- an increasing ability to understand that science and technology affects individuals, and that individuals in turn can affect science and technology (2e; *Science, Technology, and Society*).

SOCIAL STUDIES

Students will demonstrate

- an understanding of the meaning, rights, and responsibilities of citizenship as well as the ability to apply their knowledge of the ideals, principles, organization, and operation of American government through the political process and citizen involvement (4; *Civics and Government*).