A Handbook Linking Project Learning Tree's Secondary Modules to NH Frameworks For Science Literacy (K-12)

New Hampshire Project Learning Tree

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This handbook is a project of New Hampshire Project learning Tree, a private non-profit organization committed to the environmental education of our youth. The handbook is dedicated to the hundreds of school teachers and administrators who are responding to the state's move to standards-based education. Yours is not an easy job; we hope this handbook helps to lighten the load.

We would like to hear from our readers about how you have used the handbook and whether you find it accurate and clear. You can reach NH Project Learning Tree at

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METHODOLOGY
2006 Correlation Revision (Science)

NH's curriculum standards have undergone substantial change in response to the federal No Child Left Behind Act. The former state standards were written for the end of grades three, six and ten. To meet new formalized assessment requirements, the NH Frameworks for Science Literacy (K-12), approved in June 2006, address content and skills, and are divided into grade spans for K-2, 3-4, 5-6, 7-8, 9-11 (basic literacy) and 11-12 (advanced literacy).

The NH Frameworks for Science Literacy (K-12) contain the following components:

- Domain: There are four domains within the science curriculum frameworks: Earth Space Science (ESS), Life Science (LS), Physical Science (PS), and Science Process Skills (SPS).
- Strand: There are five strands, or enduring knowledge statements, in LS and four each in domains of PS and ESS. Strands are the SAME for each grade span although not all components may be seen in each grade span. (Example: LS1 – All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, & species.))
- Stem: These are the categories of ideas. Stems are common throughout all grade spans. (Example: 1. Classification)
- Grade-span Expectations (Proficiencies): These are what all students should know and be able to do within a specific grade range. The ranges include: K-2, 3-4, 5-6, 7-8, 9-11 (basic literacy level) 11-12 (advanced level).

For each strand, the associated proficiencies were consulted to help inform the degree of correlation of the broader strand with each activity; a match of at least one proficiency was required to indicate a correlation. Three elements of each activity will help focus the correlation process.

- The subject identifier in the sidebar determined whether the activity was correlated to the science frameworks; if science is not listed the activity was not be addressed.
- The grade levels noted in the sidebar determined which grade span proficiencies were examined.
- The description of activity objectives in the sidebar informed which curriculum and proficiency standard(s) are related to the activity.

Note: Any attempt to correlate universal curriculum standards and a single curriculum program involves subjectivity. Two important steps were taken to limit bias. First, the author applied this rigorous methodology to determine correlation. Second, drafts were peer-reviewed by PLT-trained elementary, middle, and high school teachers. Reviewers most common finding was that PLT activities lend themselves to modification, and in so doing, would meet many more standards than indicated. NHPLT chose, however, to correlate based on a strict interpretation of the activities, as they are written.

HOW TO USE THIS HANDBOOK

The purpose of this handbook is to assist educators who are reviewing and revising their science curricula. The primary audience is classroom teachers, curriculum specialists, and curriculum committees. The handbook is divided into three sections, as follows

- **<u>PART I</u> lists each PLT activity in the *Secondary Modules* followed by the standards from the NH Frameworks for Science Literacy (K-12) with which it is aligned.**

  Use Part I if you have a particular PLT activity in mind and want to know how it correlates with the state curriculum standards. Or, to find an appropriate activity to meet your needs, use PLT's "Topic Index" to select several potential activities to supplement your unit. To determine which state standards correlate with these activities, find the number and name of each activity in this handbook. Select an activity based on your objectives for your unit and the degree to which the activity correlates with appropriate standards. Each PLT activity is indicated by activity number and name and is followed by the strand and stem for each framework that is correlated to that activity.

- **<u>PART II</u> lists individual state curriculum standards from the NH Frameworks for Science Literacy (K-12), followed by the PLT activities that meet the individual standards.**

  Use Part II if you have a particular curriculum standard in mind and want to find an activity that meets this standard. Then read about the activities in your PLT guide to determine the one most suitable for your particular situation.

  All science domains (i.e. Life Science), strands (i.e. All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, & species) and stems (i.e. 1- Classification) are listed. Following each standard, the PLT activities aligned with that standard are identified by number and name.

- **<u>Part III</u> is a chart that lists each PLT activity in the *PreK-8 Activity Guide* and *Energy & Society Kit* and the standards from the NH Frameworks for Science Literacy (K-12) with which each activity is aligned.**

Note: Throughout this handbook, the domains are abbreviated as follows:

ESS – Earth Space Science
LS – Life Science
PS – Physical Science
SPS – Science Process Skills

Project Learning Tree Secondary Modules

EXPLORING ENVIRONMENTAL ISSUES: FOCUS ON FORESTS

1: What's a Forest to You?

SPS4 – Science Skills for Information, Communication and Media Literacy.
2 - Communication

2: Case Study: Old-Growth Forests

SPS3 – Personal, Social, and Technological Perspectives.
2 – Common Environmental Issues, Natural Resources Management and Conservation

SPS4 – Science Skills for Information, Communication and Media Literacy.
1 - Information and Media Literacy
2 - Communication
6 – Interpersonal and Collaborative Skills

3: Tough Choices

SPS3 – Personal, Social, and Technological Perspectives.
2 – Common Environmental Issues, Natural Resources Management and Conservation
3 – Science and Technology; Technological Design and Application

SPS4 – Science Skills for Information, Communication and Media Literacy.
1 - Information and Media Literacy
4 – Problem Identification, Formulation, and Solution
6 – Interpersonal and Collaborative Skills

4: Who Owns America's Forests?

None

5: Balancing America's Forests

None

6: Squirrels vs. Scopes

None

7: Words to Live By

None

8: Take Action!

SPS3 – Personal, Social, and Technological Perspectives.
- 2 – Common Environmental Issues, Natural Resources Management and Conservation
- 3 – Science and Technology; Technological Design and Application

SPS4 – Science Skills for Information, Communication and Media Literacy.
- 1 - Information and Media Literacy
- 2 - Communication
- 4 – Problem Identification, Formulation, and Solution
- 6 – Interpersonal and Collaborative Skills
- 9 – Social Responsibility

THE CHANGING FOREST: FOREST ECOLOGY

1: Adopt-A-Forest

LS2 - Energy flows and matter recycles through an ecosystem.
- 1 – Environment
- 2 – Flow of Energy

SPS1 – Scientific Inquiry and Critical Thinking Skills
- 1 – Making Observations and Asking Questions
- 2 – Designing Scientific Investigations
- 3 – Conducting Scientific Investigations

SPS3 – Personal, Social, and Technological Perspectives.
- 2 – Common Environmental Issues, Natural Resources Management and Conservation

SPS4 – Science Skills for Information, Communication and Media Literacy.
- 2 - Communication
- 3 – Critical Thinking and Systems Thinking
- 4 – Problem Identification, Formulation, and Solution

2: Cast of Thousands

LS2 - Energy flows and matter recycles through an ecosystem.
- 1 – Environment
- 2 – Flow of Energy
- 3 – Recycling of Materials

LS3 - Groups of organisms show evidence of change over time (e.g. evolution, natural selection, structures, behaviors, and biochemistry).
- 1 - Change

SPS1 – Scientific Inquiry and Critical Thinking Skills
- 1 – Making Observations and Asking Questions
- 3 – Conducting Scientific Investigations
- 4 – Representing and Understanding of Investigations

SPS3 – Personal, Social, and Technological Perspectives.
- 2 – Common Environmental Issues, Natural Resources Management and Conservation

2: Cast of Thousands (cont.)

SPS4 – Science Skills for Information, Communication and Media Literacy.
2 - Communication
3 – Critical Thinking and Systems Thinking
4 – Problem Identification, Formulation, and Solution

3: The Nature of Plants

SPS1 – Scientific Inquiry and Critical Thinking Skills
1 – Making Observations and Asking Questions
2 – Designing Scientific Investigations
3 – Conducting Scientific Investigations
4 – Representing and Understanding of Investigations
5 – Evaluating Scientific Investigations

SPS2 – Unifying Concepts of Science
1 – Nature of Science

SPS3 – Personal, Social, and Technological Perspectives.
2 – Common Environmental Issues, Natural Resources Management and Conservation

SPS4 – Science Skills for Information, Communication and Media Literacy
3 – Critical Thinking and Systems Thinking
4 – Problem Identification, Formulation, and Solution

4: Home Sweet Home

LS2 - Energy flows and matter recycles through an ecosystem.
1 – Environment.

LS3 - Groups of organisms show evidence of change over time (e.g. evolution, natural selection, structures, behaviors, and biochemistry).
1 – Change.

SPS3 – Personal, Social, and Technological Perspectives.
2 – Common Environmental Issues, Natural Resources Management and Conservation

SPS4 – Science Skills for Information, Communication and Media Literacy.
1 - Information and Media Literacy

5: Saga of the Gypsy Moth

LS2 - Energy flows and matter recycles through an ecosystem.
1 – Environment.

LS3 - Groups of organisms show evidence of change over time (e.g. evolution, natural selection, structures, behaviors, and biochemistry).
1 – Change.

SPS3 – Personal, Social, and Technological Perspectives.
2 – Common Environmental Issues, Natural Resources Management and Conservation

SPS4 – Science Skills for Information, Communication and Media Literacy.
1 - Information and Media Literacy
2 - Communication
3 – Critical Thinking and Systems Thinking
6 – Interpersonal and Collaboration Skills

6: Story of Succession

LS2 - Energy flows and matter recycles through an ecosystem.
1 – Environment.

SPS2 – Unifying Concepts of Science
4 – Patterns of Change

7: Understanding Fire

LS2 - Energy flows and matter recycles through an ecosystem.
1 – Environment.

LS3 - Groups of organisms show evidence of change over time (e.g. evolution, natural selection, structures, behaviors, and biochemistry).
1 – Change.

SPS2 – Unifying Concepts of Science
4 – Patterns of Change

SPS4 – Science Skills for Information, Communication and Media Literacy.
2 - Communication

8: Fire Management

LS2 - Energy flows and matter recycles through an ecosystem.
1 – Environment.

LS3 - Groups of organisms show evidence of change over time (e.g. evolution, natural selection, structures, behaviors, and biochemistry).
1 – Change.

SPS3 – Personal, Social, and Technological Perspectives.
2 – Common Environmental Issues, Natural Resources Management and Conservation

SPS4 – Science Skills for Information, Communication and Media Literacy
3 – Critical Thinking and Systems Thinking
6 – Interpersonal and Collaboration Skills

EXPLORING ENVIRONMENTAL ISSUES: MUNICIPAL SOLID WASTE

1: Introduction to MSW: The Waste Stream

ESS4 - The growth of scientific knowledge in Earth Space Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.

3 - Social Issues (Local And Global)

SPS1 – Scientific Inquiry and Critical Thinking Skills

3 – Conducting Scientific Investigations

4 – Representing and Understanding Results of Investigations

SPS3 – Personal, Social, and Technological Perspectives.

2 – Common Environmental Issues, Natural Resources Management and Conservation

3 – Science and Technology; Technological Design and Application

SPS4 – Science Skills for Information, Communication and Media Literacy.

1 - Information and Media Literacy

2: Source Reduction

ESS4 - The growth of scientific knowledge in Earth Space Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.

3 - Social Issues (Local And Global)

SPS3 – Personal, Social, and Technological Perspectives.

2 – Common Environmental Issues, Natural Resources Management and Conservation

3 – Science and Technology; Technological Design and Application

SPS4 – Science Skills for Information, Communication and Media Literacy.

1 - Information and Media Literacy

2 - Communication

3: Recycling and Economics

ESS4 - The growth of scientific knowledge in Earth Space Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.

3 - Social Issues (Local And Global)

4: Composting

SPS3 – Personal, Social, and Technological Perspectives.

2 – Common Environmental Issues, Natural Resources Management and Conservation

3 – Science and Technology; Technological Design and Application

SPS4 – Science Skills for Information, Communication and Media Literacy.

1 - Information and Media Literacy

2 - Communication

6 – Interpersonal and Collaborative Skills

5: Waste-to-Energy

ESS4 - The growth of scientific knowledge in Earth Space Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.

3 - Social Issues (Local And Global)

SPS3 – Personal, Social, and Technological Perspectives.

2 – Common Environmental Issues, Natural Resources Management and Conservation

3 – Science and Technology; Technological Design and Application

SPS4 – Science Skills for Information, Communication and Media Literacy.

1 - Information and Media Literacy

2 - Communication

6 – Interpersonal and Collaborative Skills

6: Landfills

LS3 - Groups of organisms show evidence of change over time (e.g. evolution, natural selection, structures, behaviors, and biochemistry).

1 – Change.

6: Landfills (cont.)

ESS1 – The Earth and Earth materials, as we know them today, have developed over long periods of time, through constant change processes.

7 – Water

SPS1 – Scientific Inquiry and Critical Thinking Skills

2 – Designing Scientific Investigations
3 – Conducting Scientific Investigations
4 – Representing and Understanding Results of Investigations

SPS3 – Personal, Social, and Technological Perspectives.

2 – Common Environmental Issues, Natural Resources Management and Conservation
3 – Science and Technology; Technological Design and Application

SPS4 – Science Skills for Information, Communication and Media Literacy.

1 - Information and Media Literacy
2 – Communication
4 – Problem Identification, Formulation, and Solution
6 – Interpersonal and Collaborative Skills

7: Where Does Your Garbage Go?

SPS3 – Personal, Social, and Technological Perspectives.

2 – Common Environmental Issues, Natural Resources Management and Conservation
3 – Science and Technology; Technological Design and Application

SPS4 – Science Skills for Information, Communication and Media Literacy.

1 - Information and Media Literacy
2 - Communication
5 – Creativity and Intellectual Curiosity
6 – Interpersonal and Collaborative Skills
8 – Accountability and Adaptability
9 – Social responsibility

8: Take Action: Success Stories and Personal Choices

ESS4 - The growth of scientific knowledge in Earth Space Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.

3 - Social Issues (Local And Global)

SPS1 – Scientific Inquiry and Critical Thinking Skills

1 – Making Observations and Asking Questions

8: Take Action: Success Stories and Personal Choices (cont.)

SPS3 – Personal, Social, and Technological Perspectives.
- 2 – Common Environmental Issues, Natural Resources Management and Conservation
- 3 – Science and Technology; Technological Design and Application

SPS4 – Science Skills for Information, Communication and Media Literacy.
- 1 - Information and Media Literacy
- 2 - Communication
- 4 – Problem Identification, Formulation, and Solution
- 6 – Interpersonal and Collaborative Skills

EXPLORING ENVIRONMENTAL ISSUES: PLACES WE LIVE

1: Personal Places

SPS3 – Personal, Social, and Technological Perspectives.
2 – Common Environmental Issues, Natural Resources Management and Conservation

2: Community Character

SPS3 – Personal, Social, and Technological Perspectives.
2 – Common Environmental Issues, Natural Resources Management and Conservation
3 – Science and Technology; Technological Design and Application

SPS4 – Science Skills for Information, Communication and Media Literacy.
1 - Information and Media Literacy
6 – Interpersonal and Collaborative Skills

3: Mapping Your Community Through Time

LS3 - Groups of organisms show evidence of change over time (e.g. evolution, natural selection, structures, behaviors, and biochemistry).
1 – Change.

LS5 - The growth of scientific knowledge in Life Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.
1 – Design Technology
3 – Social Issues (Local and Global)
4 – Career Technical Education Connections

SPS3 – Personal, Social, and Technological Perspectives.
2 – Common Environmental Issues, Natural Resources Management and Conservation
3 – Science and Technology; Technological Design and Application

SPS4 – Science Skills for Information, Communication and Media Literacy.
1 - Information and Media Literacy
2 - Communication

4: Neighborhood Design

LS3 - Groups of organisms show evidence of change over time (e.g. evolution, natural selection, structures, behaviors, and biochemistry).

1 - Change

SPS3 – Personal, Social, and Technological Perspectives.

2 – Common Environmental Issues, Natural Resources Management and Conservation

3 – Science and Technology; Technological Design and Application

SPS4 – Science Skills for Information, Communication and Media Literacy.

1 - Information and Media Literacy

3 – Critical thinking and Systems Thinking

6 – Interpersonal and Collaborative Skills

5: Green Space

LS3 - Groups of organisms show evidence of change over time (e.g. evolution, natural selection, structures, behaviors, and biochemistry).

1 - Change

LS5 - The growth of scientific knowledge in Life Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.

3 – Social Issues (Local and Global)

SPS3 – Personal, Social, and Technological Perspectives.

2 – Common Environmental Issues, Natural Resources Management and Conservation

3 – Science and Technology; Technological Design and Application

SPS4 – Science Skills for Information, Communication and Media Literacy.

1 - Information and Media Literacy

3 – Critical Thinking and Systems Thinking

6: A Vision for the Future

LS3 - Groups of organisms show evidence of change over time (e.g. evolution, natural selection, structures, behaviors, and biochemistry).

1 - Change

6: A Vision for the Future (cont.)

ESS4 - The growth of scientific knowledge in Earth Space Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.

3 - Social Issues (Local And Global)

SPS3 – Personal, Social, and Technological Perspectives.

2 – Common Environmental Issues, Natural Resources Management and Conservation
3 – Science and Technology; Technological Design and Application

SPS4 – Science Skills for Information, Communication and Media Literacy.

1 - Information and Media Literacy
2 - Communication
3 – Critical Thinking and Systems Thinking
5 – Creativity and Intellectual Curiosity
6 – Interpersonal and Collaborative Skills

7: Far-Reaching Decisions

LS3 - Groups of organisms show evidence of change over time (e.g. evolution, natural selection, structures, behaviors, and biochemistry).

1 - Change

SPS3 – Personal, Social, and Technological Perspectives.

2 – Common Environmental Issues, Natural Resources Management and Conservation
3 – Science and Technology; Technological Design and Application

SPS4 – Science Skills for Information, Communication and Media Literacy.

1 - Information and Media Literacy
2 - Communication
5 – Creativity and Intellectual Curiosity
6 – Interpersonal and Collaborative Skills

8: Regional Community Issues: The Ogallala Aquifer

LS3 - Groups of organisms show evidence of change over time (e.g. evolution, natural selection, structures, behaviors, and biochemistry).

1 - Change

8: Regional Community Issues: The Ogallala Aquifer (cont.)

SPS3 – Personal, Social, and Technological Perspectives.
- 2 – Common Environmental Issues, Natural Resources Management and Conservation
- 3 – Science and Technology; Technological Design and Application

SPS4 – Science Skills for Information, Communication and Media Literacy.
- 1 - Information and Media Literacy
- 2 - Communication
- 3 – Critical Thinking and Systems Thinking
- 5 – Creativity and Intellectual Curiosity
- 6 – Interpersonal and Collaborative Skills

EXPLORING ENVIRONMENTAL ISSUES: FOCUS ON RISK

1: What is Risk?

SPS3 – Personal, Social, and Technological Perspectives.
2 – Common Environmental Issues, Natural Resources Management and Conservation
3 – Science and Technology; Technological Design and Application

2: Things Aren't Always What They Seem

LS2 - Energy flows and matter recycles through an ecosystem.
1 – Environment

LS5 - The growth of scientific knowledge in Life Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.
3 – Social Issues (Local and Global)

SPS3 – Personal, Social, and Technological Perspectives.
2 – Common Environmental Issues, Natural Resources Management and Conservation

SPS4 – Science Skills for Information, Communication and Media Literacy.
1 - Information and Media Literacy
6 – Interpersonal and Collaborative Skills

3: Chances Are… Understanding Probability and Risk

LS3 – Groups of organisms show evidence of change over time (e.g. evolution, natural selection, structures, behaviors, and biochemistry.)
1 – Change

LS5 - The growth of scientific knowledge in Life Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.
3 – Social Issues (Local and Global)

SPS1 – Scientific Inquiry and Critical Thinking Skills
1 – Making Observations and Asking Questions
3 – Conducting Scientific Investigations

3: Chances Are… Understanding Probability and Risk (cont.)

SPS2 – Unifying Concepts of Science
1 – Nature of Science

SPS4 – Science Skills for Information, Communication and Media Literacy
3 – Critical Thinking and Systems Thinking
4 – Problem Identification, Formulation, and Solution

4: Risk Assessment: Tools of the Trade

LS5 - The growth of scientific knowledge in Life Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.
1 – Design Technology
3 – Social Issues (Local and Global)
4 – Career Technical Education Connections

SPS1 – Scientific Inquiry and Critical Thinking Skills
1 – Making Observations and Asking Questions

SPS2 – Unifying Concepts of Science
3 – Models and Scale

SPS3 – Personal, Social, and Technological Perspectives.
2 – Common Environmental Issues, Natural Resources Management and Conservation

SPS4 – Science Skills for Information, Communication and Media Literacy.
1 - Information and Media Literacy
3 – Critical Thinking and Systems Thinking
4 – Problem Identification, Formulation, and Solution
6 – Interpersonal and Collaborative Skills

5: Communicating Risk

LS2 - Energy flows and matter recycles through an ecosystem.
1 – Environment.

LS5 - The growth of scientific knowledge in Life Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.
4 – Career Technical Education Connections

5: Communicating Risk (cont.)

SPS3 – Personal, Social, and Technological Perspectives.
2 – Common Environmental Issues, Natural Resources Management and Conservation

SPS4 – Science Skills for Information, Communication and Media Literacy.
1 - Information and Media Literacy
2 - Communication
5 – Creativity and Intellectual Curiosity
6 – Interpersonal and Collaborative Skills
8 – Accountability and Adaptability

6: Weighing the Options: A Look at Tradeoffs

LS2 - Energy flows and matter recycles through an ecosystem.
1 – Environment.

LS3 - Groups of organisms show evidence of change over time (e.g. evolution, natural selection, structures, behaviors, and biochemistry).
1 – Change

SPS3 – Personal, Social, and Technological Perspectives.
2 – Common Environmental Issues, Natural Resources Management and Conservation

SPS4 – Science Skills for Information, Communication and Media Literacy.
1 - Information and Media Literacy
2 - Communication
3 – Critical Thinking and Systems Thinking
6 – Interpersonal and Collaborative Skills

7: Decision Making: Ecological Risk, Wildfires, and Natural Hazards

LS2 - Energy flows and matter recycles through an ecosystem.
1 – Environment.

LS3 - Groups of organisms show evidence of change over time (e.g. evolution, natural selection, structures, behaviors, and biochemistry).
1 – Change

7: Decision Making: Ecological Risk, Wildfires, and Natural Hazards (cont.)

LS5 - The growth of scientific knowledge in Life Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.

3 – Social Issues (Local and Global)

SPS3 – Personal, Social, and Technological Perspectives.

2 – Common Environmental Issues, Natural Resources Management and Conservation
3 – Science and Technology; Technological Design and Application

SPS4 – Science Skills for Information, Communication and Media Literacy.

1 – Information and Media Literacy
3 – Critical Thinking and Systems Thinking
4 – Problem Identification, Formulation, and Solution

Special Topic: Electromagnetic Fields

LS3 - Groups of organisms show evidence of change over time (e.g. evolution, natural selection, structures, behaviors, and biochemistry).

1 – Change

LS5 - The growth of scientific knowledge in Life Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.

1 – Design Technology
3 – Social Issues (Local and Global)

SPS3 – Personal, Social, and Technological Perspectives.

2 – Common Environmental Issues, Natural Resources Management and Conservation
3 – Science and Technology; Technological Design and Application

SPS4 – Science Skills for Information, Communication and Media Literacy.

1 - Information and Media Literacy
2 - Communication
3 – Critical Thinking and Systems Thinking
6 – Interpersonal and Collaborative Skills

Special Topic: Chlorine

LS3 - Groups of organisms show evidence of change over time (e.g. evolution, natural selection, structures, behaviors, and biochemistry).

1 – Change

LS5 - The growth of scientific knowledge in Life Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.

1 – Design Technology
3 – Social Issues (Local and Global)

SPS3 – Personal, Social, and Technological Perspectives.

2 – Common Environmental Issues, Natural Resources Management and Conservation
3 – Science and Technology; Technological Design and Application

SPS4 – Science Skills for Information, Communication and Media Literacy.

1 - Information and Media Literacy
2 - Communication
3 – Critical Thinking and Systems Thinking
6 – Interpersonal and Collaborative Skills

Special Topic: Plastics, Risk/Benefit Analysis, and Environmental Legislation

LS3 - Groups of organisms show evidence of change over time (e.g. evolution, natural selection, structures, behaviors, and biochemistry).

1 – Change

LS5 - The growth of scientific knowledge in Life Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.

3 – Social Issues (Local and Global)

SPS3 – Personal, Social, and Technological Perspectives.

2 – Common Environmental Issues, Natural Resources Management and Conservation
3 – Science and Technology; Technological Design and Application

SPS4 – Science Skills for Information, Communication and Media Literacy.

1 - Information and Media Literacy
2 - Communication
3 – Critical Thinking and Systems Thinking
6 – Interpersonal and Collaborative Skills

8: Taking Action: Reducing Risk in Your School or Community

LS3 – Groups of organisms show evidence of change over time (e.g. evolution, natural selection, structures, behaviors, and biochemistry).

1 – Change.

LS5 - The growth of scientific knowledge in Life Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.

1 – Design Technology

SPS3 – Personal, Social, and Technological Perspectives.

2 – Common Environmental Issues, Natural Resources Management and Conservation
3 – Science and Technology; Technological Design and Application

SPS4 – Science Skills for Information, Communication and Media Literacy.

1 - Information and Media Literacy
2 - Communication
3 – Critical Thinking and Systems Thinking
4 – Problem Identification, Formulation, and Solution
6 – Interpersonal and Collaborative Skills
8 – Accountability and Adaptability