Educational Concepts Addressed by the Inquiries

Note: These educational concepts have been adapted from the North American Association for Environmental Education's *Excellence in Environmental Education: Guidelines for Learning,* and focus on learning by students aged 11-14.

Inquiry Skills:

Questioning Skills
Learners are able to identify, develop, or explain inquiry questions based on personal experience, discussion, or reading.
Learners are able to summarize environmental problems or situations based on personal experience, discussion, or reading.

Data Collection Skills
Learners are able to understand and/or use measurement tools or metrics.
Learners are able to choose and synthesize materials from second-hand sources, such as books, journals, newspapers, and the internet.

Data Organization Skills
Learners are able to read and explain data summarized in tables, charts, graphs, or maps.
Learners are able to draw conclusions and develop explanations based on data or information.
Learners are able to distinguish between description and explanation.
Learners are able to propose explanations and evaluate the strengths and weaknesses of these explanations.
Learners are able to compare and contrast data representing different geographic locations.

Knowledge of Earth Systems and Processes:

Earth As a Physical System
Learners understand and are able to describe the following physical Earth processes:
- global carbon cycling
- carbon cycling in trees
- climate change (its cause and potential effects)
- latitude and its relation to tree species
- elevation and its relation to tree species.

Environment and Society:

Human/Environment Interactions
Learners understand and can explain how human-caused changes to forests have consequences: immediately and in the future, and locally, regionally, and globally.

Natural Resources (forests)
Learners understand that natural resources (forests) are unevenly distributed across the planet.
Learners understand and can describe the multiple benefits offered by forests.
Learners understand that forests can change because of natural and man-made activity.
Learners understand that a variety of forests exist on Earth, and this variety may be created naturally or may be man-made.

Technology
Learners understand the increasing human ability to shape and control the environment as a function of the development and use of technology.

Environmental Issues
Learners understand that environmental issues occur at all scales, and that people in other places in the world experience environmental issues similar to the ones they are concerned about locally.

Skills for Understanding and Addressing Environmental Issues:

Understanding and Addressing Environmental Issues
Learners are able to apply their knowledge of ecological and human processes and systems to identify the consequences of specific environmental issues.
Learners understand the nature of trade-offs, and are able to analyze the risks and benefits of human environmental actions.
Learners are able to predict the consequences of inaction or failure to resolve an environmental issue.
Learners are able to identify and evaluate solutions and courses of action to address environmental issues.

Decision-making and **Citizenship Skills**
Learners are able to identify, justify, and clarify their views on environmental issues.
Learners are able to evaluate the need for citizen action and decide whether they should or could be involved.
Learners are able to set realistic goals for action.