Grade 7 Learning Experiences: Human's Impact on the Environment and Ecosystems

Experience 1: Build and Test a Vivarium

[Grade 7 Long Range Plan Model 1](#)

In this STEM-based, engaging activity, students get to explore important ecosystem issues and apply learned concepts as new learning happens.

They will start by getting some fresh air to get soil samples from various sources around the school. (1 period of 50 minutes). Students will then conduct tests and experiments to evaluate the quantity and the quality of the living thing from their samples by comparing their findings with other classmates. (10 minutes per period for a few weeks)

Next, students will calculate their lifestyle footprint with the goal of being as reliable and honest as possible. Transferring the data by hand or by a computer program such as Google Sheets or Excel, they will compile all the class results. Combining and calculating how much land is needed for their actual lifestyle, students will make predictions. Relating the sustainable way of living and the importance of the pressure it's putting on ecosystems. (2 periods of 50 minutes)

Students will then explore how developments and exploitation of the land can impact the quality of available land in Ontario. This will be accomplished by studying before and after pictures of Hawkesbury, Ontario. They will then use their findings to make hypotheses or the causes that affected the water banks of Chenail Island. (1 period of 50 minutes). Then, in small groups, students will prepare a debate about the impact on the environment and economy of one human action. They will have to justify with facts and statistics so they will need time to research the subject. (2-3 periods of 50 minutes)

In the final step, students will explore how humans can help make conservation initiatives and garden restorations including indigenous contributions. They will then use any program of their choice based on what they would like to emphasize. They should present their findings in a one-pager of quality, infographic. (3 periods of 50 minutes).

Overview of learning experiences – why these activities	In this experience students will research and present careers in science that are oriented toward maintaining the balance in ecological systems. They will also explore how humans can help

	make conservation initiatives and garden restorations including indigenous contributions. This experience includes the for this entire lesson plan. Big Idea: - Humans Impact - Environment and Ecosystems See Grade 7 Long Range Plan Model 1, March
Prior Knowledge / Prior Skill Set(s)	**Background Knowledge and concept (Teacher)** ● Knowledge of what has been explored in Grade 6 Biodiversity ● Knowledge of transferable skills. ● Understanding of the Learning For All Document ● Understanding of how to engage in the Engineering Design and Research process ● Understanding of safety procedures ● Understanding of block-based coding concepts and platforms like Microbit **Background Knowledge and concept (Students)** ● Knowledge of habitats and interactions between species ● Knowledge of different chemical cycle (water, carbon, nitrate) ● Knowledge of different life cycles (plants, fish, insects, mammals) ● Aware of safety behavior and procedures in case of accidents (example: no broken glass in a garbage bag) ● Aware of various collaboration strategies ● Knowledge of how to use technology for research and collaboration ● Ability to double check the facts before taking the data for granted. ● Prior knowledge of coding concepts (e.g. loops, timers, counters, and conditional statements) ● Prior knowledge and experience using basic block-coding and the use of Microbit

Grade 7 Experience 4/ Human Impact on the Environment
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Strand A - STEM Investigation and Communication Skills	⊘ **A1.1** Identify various ways in which humans affect/impact their natural environment.
	A1.5 Communicate ways through which we can promote positive, and mitigate negative, environmental interactions.
	A.3 Research how human activity is impacting SDGs 14 (Life Below Water) and 15 (Life on Land).
	A.3 Explore FNMI ways of knowing and practices and how they contribute to environmental sustainability.
Overview / Big Ideas/Fundamental Concepts	**Overview**
	Students will learn about interaction (action and reaction) through a series of experiments that help them see the impact of humans on ecosystems. They will use their observational and communication skills to identify short term and long term effects on living things. Through the use of coding skills, they could create humidity control devices and temperature reading devices for their vivarium.
	Students will also think critically about how the quality of water can cause the loss of biodiversity and can affect people differently based on their locations on the planet.
	Big Ideas
	Every natural ecosystem needs water in order to reach biodiversity. Biodiversity provides benefits to all living things. Yesterday's solutions are today's problems.
	Systems and Interactions
	A system is a collection of living and/or non-living things and processes that interact to perform some function. A system includes inputs, outputs, and relationships among system components. Natural and human systems develop in response to, and are limited by, a variety of environmental factors.

	Sustainability and Stewardship Sustainability is the concept of meeting the needs of the present without compromising the ability of future generations to meet their needs. Stewardship involves understanding that we need to use and care for the natural environment in a responsible way and making the effort to pass it on to future generations no less than what we have access to ourselves. Values that are central to responsible stewardship are as follows: using non-renewable resources with care; reusing and recycling what we can, and switching to renewable resources where possible. **Automation** Automation involves implementing technologies to make systems run on their own, without further human intervention. Automation can facilitate and accelerate functions that are otherwise difficult, repetitive, or dangerous for human beings to perform. Coding and emerging technologies play an increasingly important role in controlling automated systems.
Learning Goals / Success Criteria	**Learning Goal:** We are learning about the human impact on ecosystems and why it is important to all life on earth. **Success Criteria** ● I can use characteristics to describe and classify living organisms ● I can identify, define, and explain all the characteristics of ecosystems (e.g. climate, species, populations, interactions) **Learning Goal**: We are learning about the contributions of emerging technology to solve diverse automated needs. **Success Criteria** ● I can explain why their contributions are important and needed to solve environmental problems.

	● I can code a program that can read environmental changes such as temperature or humidity. ● I can predict some of the long term effects of emerging technology solutions. **Ministry of Education Key Points** **1. STEM Skills and Connections:** Perspectives and approaches that provide opportunities for students to investigate and apply concepts and skills from all areas of learning. **2 Research and Experimentation Processes:** Provides students with the scientific literacy skills needed to approach scientific questions that are becoming a part of everyday life. **4 Hands-on, Experiential Learning:** Includes hands-on, experiential learning opportunities to support classroom activities that encourage curiosity. **5 Coding:** Allows students to explore a wide variety of science and technology concepts and contexts through coding, while also learning valuable skills related to automation and control of systems. **8 Contributions to Science and Technology**: Showcases the important contributions made to science and technology by people with diverse lived experiences. Students also explore real-world issues by connecting scientific and technological knowledge systems and perspectives from various cultures, including connecting Indigenous sciences and technologies and Western science and technology. **9 Climate Change:** Students will develop the skills and knowledge needed to understand the causes and potential solutions and mitigation strategies related to climate change and other environmental issues, and how they can make the most environmentally responsible decisions possible, given the choices they have. **10 Food Literacy:** Skills and knowledge related to food literacy: from students developing an understanding of where food comes from and how it is grown and prepared to students investigating the importance of biodiversity in agriculture.

Learning Experience(s) (?) 🗨️🗨️ 👤 👤 **A1.1, A1.5**	[Curiosity and Wonder in Science and Technology](#) **Experience 4** (3 periods of 35 minutes or 2 periods 50 minutes) **Possible Careers** In this activity, students should understand intrinsic and interspecies relationships to realize what a miracle life is. Understand that the blue planet is unique and that we are not about to find a replacement anytime soon. Even the lunar base that NASA wants to build on the moon will not be able to become autonomous in the first decades after its construction. Just like the vivarium, a simple imbalance could endanger the survival of all the inhabitants of the station. Students will research and present careers in science that are oriented toward maintaining the balance in ecological systems, water quality-oriented, and agricultural use of emerging technologies, and how they will be useful if a station on the Moon or another planet becomes a reality. The results of their research should be an infographic page that could be posted outside the class to inspire other students. Teachers can use this guide ([Graphic Design Principles](#)) as a reference on how to create an infographic. See [Appendix A: Infographic Student Activity Guide](#). Students can use [Appendix B: Infographic Checklist](#) to check their work. Teachers can use this rubric ([Appendix C: The Research Project Rubric](#)) for the assessment.
(?) 🌐 **A1.1, A.3**	**Consolidation** (3 periods of 35 minutes or 2 periods 50 minutes) This final research is more for the students to realize that even if some actions have already been put in place to save the endangered species in Canada, the work is not over. The research assessment could be presented with any multimedia available online that the students are comfortable with. The teacher should encourage creativity and initiative in the students as they chose one species and provide a solution to prevent it from disappearing from the surface of the planet. (Dinosaurs are not endangered species.)

	Students should reflect and put their ideas together from what they have learned in the previous activities. It should give them the opportunities to extend on how everyday human activities have an impact on suitable habitats for those species, how it will impact their future on this planet and how it will impact future explorations. See Appendix D: Presentation of a Species at Risk - Teachers Notes. See Appendix E: Presentation of a Species at Risk Student Activity Guide See Appendix F: Species at Risk in Canada Adapted Evaluation Grid
Science and Technology Expectations	**STRAND B. Life Systems - Interactions in the Environment** B1.1 assess the impact of various technologies on the environment B1.2 assess the effectiveness of various ways of mitigating the negative and enhancing the positive impact of human activities on the environment B2.8 describe how different approaches to agriculture and to harvesting food from the natural environment can impact an ecosystem, and identify strategies that can be used to maintain and/or restore balance to ecosystems **STRAND C. Matter and Energy - Pure Substances and Mixtures** C1.1 analyze the social and environment impacts of the use and disposal of pure substances found in technological devices, considering local and global perspectives C1.2 assess environmental and social impacts of different industrial methods used to separate mixtures
Science and Technology Vocabulary	Biodiversity Biomes Community Conditional Statements (coding)

	Ecosystem Engineering Process Habitat Impact Interaction Interrelationship interspecies Intertidal Zone Intrinsic Loops (coding) Research Process Species True or False (coding) Vivarium
Equipment and Materials	REQUIRED ● Antidote software ● Online collaboration software ● Coding software such as Micro:bit ● Presentation software such as Pretzi, Powerpoint or Canvas ● Electronic spreadsheet such as Excel or Google sheets ● Organizational diagram software such as SMART Ideas For Experience 4 Possible Careers ● access to internet ● online notes software ● computer ● online collaboration software For the Consolidation: ● access to internet ● online notes software ● computer ● other material depending of mode of presentation chosen
Timeline and Preparation	Time required for preparation – **Experience 4 Possible Careers** 3 periods of 35 minutes or 2 periods 50 minutes **Consolidation**

	3 periods of 35 minutes or 2 periods 50 minutes Time can be extended based on student engagement/interest/driving questions/inquiry
Safety Considerations	Refer to these STAO and OCTE Safety resources: [Safety in Elementary Science and Technology (STAO)](#) [Safe Activity Foundations in Education Document (SAFEdoc)](#) [Science and Technology, Grades 1-8 (OCTE)](#) [Ontario Curriculum Program Planning – Health and Safety](#)
Opportunities For Assessment	Assessment FOR is mostly at the beginning of the unit the Minds On. The outdoor activity provides an anchor for future references during the other activities. It also activates students' prior knowledge of nature and the interactions in their surroundings. Assessment AS is done throughout all activities, by discussion between students with the teacher, discussion between students and observations made during the hands-on periods. Assessment OF learning is mostly in activity 5 where students have to use what they have learned to suggest solutions for endangered species. The assessment grid is provided for the student's hand out. **According to the Ministry of Education Growing Success Document (2010) assessment is about improving student learning!** Assessment **FOR** Learning: Occurs frequently and in an ongoing manner during instruction, while students are still gaining knowledge and practicing skills and is used by teachers to monitor students' progress towards achieving the overall and specific expectations, so that teachers can provide timely and specific descriptive feedback to students, scaffold next steps, and differentiate instruction and assessment in response to student needs. Assessment **AS** Learning: Occurs frequently and in an ongoing manner during instruction, with support, modeling, and guidance

	from the teacher and is used by students to provide feedback to other students (peer assessment), monitor their own progress towards achieving their learning goals (self-assessment), make adjustments in their learning approaches, reflect on their learning, and set individual goals for learning. Assessment **OF** Learning: Occurs at or near the end of a period of learning, and may be used to inform further instruction and is used by the teacher to summarize learning at a given point in time. This summary is used to make judgements about the quality of student learning on the basis of established criteria, to assign a value to represent that quality, and to support the communication of information about achievement to students themselves, parents, teachers, and others Please use as a reference to the [Ministy of Education documents assessment evaluation](#).
Instructional Strategies and Adaptability	[Learning in an environment that is safe, respectful and inclusive](#) (community building should be ongoing). [Program Planning and Equity and Inclusion and CRP](#) Teachers should adapt the lessons based on the needs of the students in their class. Please refer to the document. [Learning for All](#) [Transferable Skills](#)
Additional Supporting Resources	[Science and Technology](#) Curriculum Ministry of Education, Ontario site for more information [Fundamental Concepts and "Big Ideas" in Science and Technology](#) Exploring ecosystems in extreme climate condition [Polar Quest 2 challenge: Technology in an extreme environment - Teaching Dossier - EducaPoles - International Polar Foundation's educational site](#) Expo Science [For Educators - Youth Science Canada | Sciences jeunesse Canada](#)

	Free bilingual site about Canadian wildlife including invasive species and other habitat and biomes interesting material. (22) Hinterland Who's Who / Faune et flore du pays - YouTube Science North: Interactions in Ecosystems (scroll down to Interactions in Ecosystems Parts 1-5). Visual dictionary to help students visualize vocabulary English: IKONET.COM Exploring vertical agriculture for space ecosystems
Cross-Curricular Opportunities	**Language : Students will have to show communication skills when presenting their work.** **-** use speaking skills and strategies appropriately to communicate with different audiences for a variety of purposes **Arts :** The infographic activity has to respect seven criteria while being pleasing to the eyes of others.
Future Opportunities / Next Steps	For those who finish faster than others, they should be encouraged to investigate coding like programming the Microbits to water the vivarium automatically when needed. https://makecode.microbit.org/# Students can explore STEM careers from Let's Talk Science. Students may want to organize a Science Fair within the school or for a larger audience (in the town's library or spring feast events)

Appendix A: Infographic Student Activity Guide

INFOGRAPHIC OF A POSSIBLE CAREER

When I grow up, I could be . . .

In this activity, students should have enough understanding of intrinsic and interspecies relationships to realize how life is a miracle. Understand that the blue planet is unique and that we are not about to find a replacement anytime soon. Even the lunar base that NASA wants to build on the moon will not be able to become autonomous the first decades after its construction. Just like the vivarium, a simple imbalance could endanger the survival of all the inhabitants of that station.

Using multimedia technology (eg, Canvas, Prezi, PowerPoint or Google slide) create an infographic about a career that will still exist in the next 10-12 years. No matter which multimedia you use, make sure to be able to print it. Infographics are to be hung in the school to inspire other students. Your choice must advertise a career in science that is oriented toward one of the subjects below.
- o maintaining the balance in ecological systems,
- o water (quality, or preservation, or control)
- o animals' survival (biodiversity)
- o agriculture using emerging technologies.

Select the possible careers for your infographic using one of the lists below.

Let's talk science: English
https://letstalkscience.ca/careers?_ga=2.182000686.825213967.1667354896-929776187.1665627977
French:
https://parlonssciences.ca/carrieres?_ga=2.213311133.825213967.1667354896-929776187.1665627977

Find your trade: English: https://www.findyourowntrade.com/
French: https://www.trouvetonmetier.com/

Your presentation must have the seven items presented by the teacher about infographics:

❏ Alignment,

❏ Contrast,

❏ Uniformity,

- ❏ Rhythm,
- ❏ Simplicity
- ❏ Colors,
- ❏ Typography,

When researching the career, you have chosen, you should make sure to find the information below and include it in your infographic:

- ❏ a description of the job to do.
- ❏ its average salary per year.
- ❏ a description of where the job will be conducted. (e.g. underwater)
- ❏ its contribution to the environment.
- ❏ the possibilities that it would still exist in 10 to12 years.
- ❏ the possibilities that it would be needed on the future Moon station.

Your teacher will tell you if the infographic will be posted in the corridors or in the common area. To prevent fingerprints or damage to you work, use a mate varnish, and let dry before hanging.

Remember:

- – use Antidote to correct your slideshow before presenting it.
- – the evaluation grid is used to take note of the evaluation criteria.

Appendix B: Infographic Checklist

INFOGRAPHIC OF A POSSIBLE CAREER

When I grow up, I could be . . .

Learning Outcomes: -I pass a respectful message that provides useful and verifiable information. (ARTS) -I describe various occupations, including skilled trades, as well as ways in which these trades deal with problems arising from everyday environmental preservation situations. (A3. 1). **Criteria sought**	YOUR FIRST VERIFICATION	YOUR SECOND VERIFICATION

IS THERE ALIGNMENT?
  - Are all your elements connected in an invisible grid?
  - Is your text aligned correctly?
  - Does your document follow a logical visual hierarchy?		

IS THERE A CONTRAST? - Did you use contrasts judiciously (colors, shapes, typographic styles)?		

IS THERE UNIFORMITY?
  - Are your text and heading levels used consistently?
  - Are your images similar in color and style?
  - Are your colors in harmony?		

IS THERE RHYTHM? - Are your spacing between paragraphs, lines and under headings balanced and constant?		
IS THERE SIMPLICITY? -Have you removed all unnecessary items?		
IS THERE COLOR? - Do you use a maximum of 5 colors? - Are the colors chosenin relation to the emotion you want to create? - Do you have a recall color?		

IS THERE A TYPOGRAPHY?
  - Did you use a maximum of 2 typographies?
  - Have you checked readability before printing?		

OTHER COMMENTS: give your explanations		

Appendix C: The Research Project Rubric

Student Achievements:
The Research Project

	Level 1	**Level 2**	**Level 3**	**Level 4**
Knowledge and understanding				
Knowledge of the elements under consideration •Quality and use of information	The student demonstrates **limited knowledge** of the elements being studied.	The student demonstrates **a partial knowledge** of the elements under study.	The student demonstrates **a good knowledge** of the elements under study.	The student demonstrates **a thorough knowledge** of the elements under study.
Thinking skills				
Use of planning skills •Organization • Research	The student uses planning skills **with limited effectiveness**.	The student uses planning skills **with some efficiency**.	The student uses planning skills **effectively**.	The student uses planning skills **very effectively**.
Use of critical thinking and creative thinking processes •Links between key concepts •Analysis	The student uses the processes of critical thinking and creative thinking **with** limited effectiveness.	The student uses the processes of critical thinking and creative thinking **with some efficiency**.	The student uses the processes of critical thinking and creative thinking **effectively**.	The student uses the processes of critical thinking and creative thinking **with great efficiency**.
Communication				
Expression and organization of ideas and information •Text effectiveness	The student expresses and organizes ideas and information **with limited efficiency**.	The student expresses and organizes ideas and information **with some efficiency**.	The student expresses and organizes ideas and information **effectively**.	The student expresses and organizes ideas and information **very effectively**.
Use of conventions and terminology under consideration •Terminology	The student uses the conventions and terminology under study **with limited effectiveness**.	The student uses the conventions and terminology under study **with some efficiency**.	The student uses the conventions and terminology under study **effectively**.	The student uses the conventions and terminology under study **with great efficiency**.
Implementation				
Linkages	The student makes connections **with limited effectiveness**.	The student makes connections **with some efficiency**.	The student makes connections **effectively**.	The student makes connections **with great efficiency**.

Appendix D: Presentation of a Species at Risk - Teachers Notes

Presentation of a Species at Risk - Teachers Notes

Students should reflect and put their ideas together from what they have learned in the previous activities. It should give them the opportunities to extend on how every day human activities have an impact on suitable habitat for those species, how it will impact their future on this planet and how it will impact on future explorations. Student's will realize that even if some actions have already been put in place to save the endangered species in Canada, the work is not over.

The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) defines the status of species as follows:

1. extirpated: a wildlife species that no longer exists;

2. Extirpated: a wildlife species that no longer exists in the wild in Canada but occurs elsewhere;

3. Endangered: a wildlife species facing imminent extirpation or extirpation;

4. threatened: a wildlife species that is likely to become endangered if current conditions are not reversed;

5. Special Concern: A wildlife species that may become threatened or endangered wildlife.

In this summative assessment task, can be done using multimedia technology (eg, Canvas, Prezi, Powerpoint or Google slide) create a presentation about that endangered species.

Select a species at risk for your presentation using one of the lists below. These lists are regularly updated.

1. Parks Canada, *Species at Risk – Featured Species*, Protecting species - Science and conservation (pc.gc.ca)

2. Ontario Ministry of Natural Resources, *Species at Risk – List of Wildlife Species at Risk in Ontario (EOSS),* http://www.mnr.gov.on.ca/fr/Business/Species/2ColumnSubPage/276723.html

When researching the species at risk you have chosen, you should make sure to find the information below and include it in your presentation:

❏ a description of its ecosystem.

❏ its population.

- ❑ a description of their community.
- ❑ its status.
- ❑ the biotic and abiotic elements found in its ecosystem.
- ❑ prey-predator interactions.
- ❑ the role of humans in reducing their population.
- ❑ the Indigenous connections
- ❑ the judicious measures taken by humans to encourage the removal of the species from the list of species at risk.
- ❑ The impact of human activities on the specie habitat

Your presentation must include at least one (1) of the following:
- ❑ an interview,
- ❑ a game,
- ❑ a song,
- ❑ a statistical table or graph.

Presents the hope at risk by means of a presentation software. Your teacher will tell you if the presentation will be live in front of the class group or if you will have to record it.

Remember:

   – use Antidote to correct your slideshow before presenting it.

   – the evaluation grid is used to take note of the evaluation criteria.

The advantage of a recording is that it can be use in the student's portfolio for future references.

Appendix E: Presentation of a Species at Risk Student Activity Guide

Summative Assessment:

Presentation of a Species at Risk

In this summative assessment task, you must do research on a species at risk in Canada. Then using multimedia technology (eg, Canvas, Prezi, PowerPoint or Google slide) create a presentation about that endangered species.

Select the species at risk for your presentation using one of the lists below. These lists are regularly updated.

1. Parks Canada, *Species at Risk – Featured Species*, [Protecting species - Science and conservation (pc.gc.ca)](#)

2. Ontario Ministry of Natural Resources, *Species at Risk – List of Wildlife Species at Risk in Ontario (EOSS),*
   http://www.mnr.gov.on.ca/fr/Business/Species/2ColumnSubPage/276723.html

When researching the species at risk you have chosen, you should make sure to find the information below and include it in your presentation:

❑ a description of its ecosystem.

❑ its population.

❑   a description of their community.

❑ its status.

❑ the biotic and abiotic elements found in its ecosystem.

❑   prey-predator interactions.

❑ the role of humans in reducing their population.

❑ the Indigenous connections

❑ the judicious measures taken by humans to encourage the removal of the species from the list of species at risk.

❑ The impact of human activities on the specie habitat

Your presentation must include at least one (1) of the following:

❑ an interview,

❑ a game,

❏ a song,

❏ a statistical table or graph.

Presents the hope at risk by means of a presentation software. Your teacher will tell you if the presentation will be live in front of the class group or if you will have to record it.

Remember:

    – use Antidote to correct your slideshow before presenting it.

    – the evaluation grid is used to take note of the evaluation criteria.

Appendix F: Species at Risk in Canada Adapted Evaluation Grid

Species at Risk in Canada
Adapted evaluation grid

Subject: Science and Technology	Domain: Living Systems – Interactions in the Environment	Year of study: 7th	Pupil:	Level:	Date :

Assessment Task: Canada's Species at Risk, multimedia presentation

Expectations:	Comments (strengths, areas for improvement, next steps):
–demonstrate understanding of the interactions between abiotic and biotic elements of an ecosystem. –examine, on the basis of observations and research, the interactions occurring in an ecosystem and identify the factors that influence the balance of its abiotic and biotic elements. – analyse the impact of human activities, natural processes and technological innovations on the environment and propose appropriate measures that would promote environmental sustainability.	

Skills	Level 1	Level 2	Level 3	Level 4
Knowledge and understanding	The student:			
(CC 1) Knowledge of the elements under study: –knows the status and Loi on the species at risk in Canada.	–demonstrates limited knowledge of the elements under study.	–demonstrates partial knowledge of the elements under study.	–demonstrates a good knowledge of the elements under study.	–demonstrates in-depth knowledge of the elements under consideration.
(CC 2) Understanding of the elements under consideration: –includes interactions between biotic and abiotic components of an ecosystem; –understands the issues of human impacts on the environment .	–demonstrates a limited understanding of the elements under consideration.	–demonstrates a partial understanding of the elements under study.	–demonstrates a good understanding of the elements under consideration.	–demonstrates a thorough understanding of the elements under consideration.
Thinking skills	The student:			
(HP 2) Use of information processing skills: –accurate information and exhaustive research	–uses information processing skills with limited relevance.	–uses information processing skills with some relevance.	–uses information processing skills with relevance.	–uses information processing skills with great relevance.

Communication	The student:			
(CO 1) Expression and organization of ideas and information: –well-written and visually interesting slides	–expresses and organizes ideas and information with limited coherence.	–expresses and organises ideas and information with a certain coherence.	–expresses and organises ideas and information in a coherent manner.	–expresses and organises ideas and information with great coherence.
(CO 2) Communication of ideas and information, orally, in writing and visually, for specific purposes and for specific audiences: –oral presentation mastered and delivered with confidence	–communicates ideas and information for specific purposes and for specific audiences with limited effectiveness.	–communicates ideas and information for specific purposes and for specific audiences with some effectiveness.	–communicates ideas and information for specific purposes and for specific audiences effectively.	–communicates ideas and information for specific purposes and audiences very effectively.
(CO 3) Use of conventions and terminology under consideration: –uses the terminology under study accurately in writing and orally (*ecosystem*, *population*, *community*, biotic, *abiotic*, *prey*, *predator* , *status*).	–uses the conventions and terminology under consideration with limited accuracy.	–uses the conventions and terminology under consideration with some accuracy.	–uses the conventions and terminology under consideration accurately.	–uses the conventions and terminology under consideration with great accuracy.
Implementation	The student:			
(MA 1) Application of knowledge and skills in familiar contexts: –The presentation includes an interview, game, song or statistics table or graph to show mastery of the subject.	–applies knowledge and skills in familiar contexts with limited scope.	–applies knowledge and skills in familiar contexts of a certain scope.	–applies knowledge and skills in familiar and wide-ranging contexts.	–applies knowledge and skills in familiar contexts with a lot of scope.
(MA 2) Transfer of knowledge and skills to new contexts: - transfers knowledge learned across the unit to the species at risk theme.	–transfers knowledge and skills to new contexts with limited relevance.	- transfers knowledge and skills to new contexts with some relevance.	- transfers knowledge and skills to new contexts with relevance.	- transfers knowledge and skills to new contexts with great relevance.
(MA 3) Linking up: - links between human activities and population decline.	– establishes links with limited effectiveness.	– establishes links with some effectiveness.	– establishes links effectively.	– makes connections very effectively.

Appendix F: Oral Presentations Rubric

Name:

Endangered Species:
Oral Presentations

	Level 1	**Level 2**	**Level 3**	**Level 4**
Knowledge and understanding				
Knowledge of the subject presented	The student demonstrates **limited knowledge** of the subject presented.	The student demonstrates **a partial knowledge** of the subject presented.	The student demonstrates **a good knowledge** of the subject presented.	The student demonstrates **a thorough knowledge** of the subject presented.
Understanding of the subject presented	The student demonstrates **limited knowledge** of the subject presented.	The student demonstrates **a partial knowledge** of the subject presented.	The student demonstrates **a good knowledge** of the subject presented.	The student demonstrates **a thorough knowledge** of the subject presented.
Thinking skills				
Use of critical thinking and creative thinking processes in oral presentation	The student uses the processes of critical thinking and creative thinking **with limited effectiveness**.	The student uses the processes of critical thinking and creative thinking **with some efficiency**.	The student uses the processes of critical thinking and creative thinking **effectively**.	The student uses the processes of critical thinking and creative thinking **with great efficiency**.
Communication				
Expression and organization of ideas and information in the oral presentation	The student expresses and organizes ideas and information **with limited efficiency**.	The student expresses and organizes ideas and information **with some efficiency**.	The student expresses and organizes ideas and information **effectively**.	The student expresses and organizes ideas and information **very effectively**.
Use of conventions and terminology under consideration in oral presentation	The student uses the conventions and terminology under study **with limited effectiveness**.	The student uses the conventions and terminology under study **with some efficiency**.	The student uses the conventions and terminology under study **effectively**.	The student uses the conventions and terminology under study **with great efficiency**.
Implementation				
Transfer of knowledge and skills to new contexts	The student transfers knowledge and skills to new contexts **with limited effectiveness**.	The student transfers knowledge and skills to new contexts **with some efficiency**.	The student transfers knowledge and skills to new contexts **effectively**.	The student transfers knowledge and skills to new contexts **with great efficiency**.