Environmental Science Activities

for Grade 11 Students at the Toronto Zoo

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General Pre-Zoo Activity

Time needed: 35 minutes (or more)

Type of activity: pair-share, small-group (approximately 2-3 students)

Objective: encourage students to think about and evaluate the roles of animals in our society and the purposes of zoos along with their own attitudes or stands toward zoos

Materials needed: a set of 8-16 statements and a mode of ranking (either *above the line-below the line* or *diamond* style ranking system)

Special note: In order to manage time, teacher can chose to use any number of the statements as long as the 4 core statements listed bellow are included.

Task: students work together to rank the statements about the treatment of animals. They should work together and try to negotiate a consensus, but if this is impossible they can either leave out the particular statement or write down a few lines in their notes as to why they would place them in a different category.

Debrief: during the debrief students can share their opinions and potential difficulties about the ranking process. Discussion then should focus on the four objectives of zoos and how they ranked using animals for the establishment of each of these objectives. For example, how many students thought that keeping wild animals in zoos for purposes of amusement was acceptable? How many agree that animals kept in captivity with a purpose of studying ways these animals can be reintroduced into the wild is acceptable? Finally students can take a stand in their opinion about zoos in a *four-corners* activity.

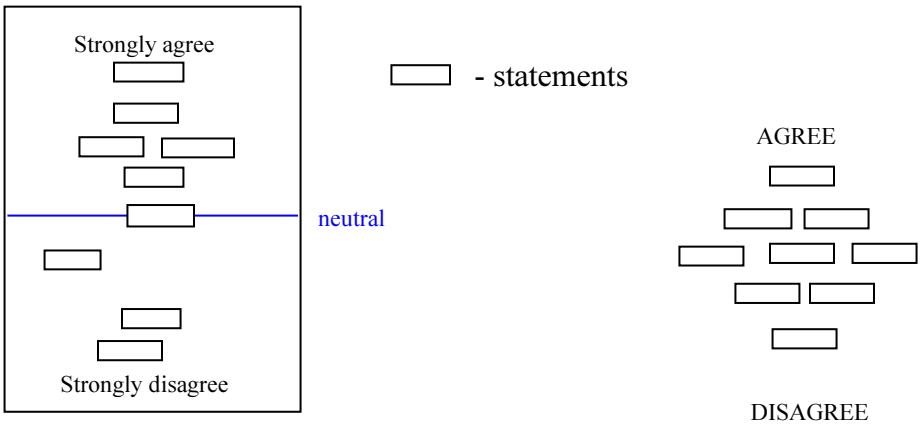
Zoo's objective	Statement from list
Research	Exchange of animals in zoos for breeding purposes and research that ensures genetic diversity for future generations
Education	Educating the public through captive animals and confiscated trade items
Conservation	Keeping animals in cages to study breeding strategies, nutrition, and behaviour in order to reintroduce animals back into the wild
Recreation	Keeping wild animals in zoos, circuses, aquariums and aviaries for purposes of amusement

Conclusion: the focus of this activity should be to point out to students the zoo's commitment to research, conservation, and education in addition to recreation. Visiting the zoo in order to further educate ourselves (and potentially others) about wild animals, the interdependence of ecosystems, the impact of human activity on the environment, conservation efforts and other relevant topics can make the experience worth while and the greater mission of the zoo successful!

Using animals for scientific experiments to test whether cosmetics and toiletries (perfumes, shampoos, etc.) are safe for human use	Hunting and trapping fur animals so their skins can be used to make fur coats and hats
Keeping wild animals in zoos, circuses, aquariums and aviaries for purposes of amusement	Using animals for military experiments to test the effects of new weapons of chemical, gas and biological warfare
Intensive rearing of animals inside factory farms for eventual slaughter and consumption as food	Using animals in scientific experiments to find cures for human diseases such as AIDS and cancer
Using animals as beasts of burden for riding and pulling carts, carriages and ploughs. Riding animals in zoos.	Exchange of animals in zoos for breeding purposes and research that ensures genetic diversity for future generations
Educating the public through captive animals and confiscated trade items (ex: gorilla hand ashtray, rain sticks, ivory items)	Keeping animals in cages to study breeding strategies, nutrition, and behaviour in order to reintroduce animals back into the wild
Using specifically-bred and purpose-trained dogs to assist disabled people	Hunting and fishing for pleasure: the thrill of the chase and catch
Using specially bred and freshly killed animals for dissection in school biology lessons	Rearing of animals in free-range conditions (open yards and fields) for eventual slaughter and consumption as food
Using animals in television commercials as a means for promoting products	Neutering and spaying animals (pets)

ABOVE-THE-LINE, BELOW-THE-LINE

This activity involves taking a piece of paper with a line running along the middle, and labeling one side of the line *strongly agree* and the other *strongly disagree*. Instead of paper, a piece of tape on the desk can also serve as a division between the two sides. Students can use this set up to make decisions about the statements given to them. The statement they agree with the most will be furthest on the top from the line. If the students feel indifferent about certain statements they can place them on the line, although the general idea is for students to take a stand.



DIAMOND RANKING

Diamond ranking is similar to the previous activity, however it is more lenient, as students can place many statements at the same level. This means there is less prioritizing and for some students perhaps less pressure. When working together with other students to reach a consensus the diamond structure might prove more accommodating. Although diamond ranking most often involves 9 statements arranged in the above pictured configuration, students can take more freedom with their statements.

Teaching Strategies

- Distribute one set of materials for each group of 2 students
- Allow about 10 minutes for students to agree on a mutually acceptable ranking
- After groups may pair with other groups to continue the dialogue
- You may need to mediate the tone of the discussions, as the debates can become animated
- Students should try to reach a consensus. Stress this is a difficulty often faced by policy makers

Ecological Interactions -Activity 1

Teacher Notes

Introduction

This activity focuses on the interactions within an ecosystem. Students examine these through observational activities at the zoo and questions. The observations from the zoo are then analysed further in the classroom.

Expectations (Ontario Ministry of Education)

Overall Expectations

- Demonstrate an understanding of factors that influence the sustainability of the natural environment and evaluate their importance
- Analyse how various factors influence the relationships between organisms and the natural environment
- Explain why it is important to be aware of the impact of human activities on the natural environment

Understanding Basic Concepts

- Use energy pyramids to explain the production, distribution, and use of food resources in a food chain
- Explain the ecological role of representative 9organisms from each of the kingdoms of life

Developing Skill of Inquiry and Communication

- Investigate and explain how a change in one population can affect the entire food web

Materials: field-book for data recording, student worksheets

Pre-visit Activity on Observation Skills

Time: 25 to 30 minutes
Activity:

1) Students go outdoors and pick a spot that is ideally at least 15 m from their closest neighbour.

2) Students in a notebook record what they see, smell, hear, and feel. They should record everything. They may use pictures, words, and poems or any combination.

Teaching strategies:

- Students to be good observers need to see the general and specific. Students need to observe 1) an overall view that may be described as non-focused or an “eagle” view that sees the whole picture. 2) Students should also observe specific details. This is described as focused viewing or seeing as a “mouse”.
- Allow 15 minutes for this solo.
- Post discussion should focus on the process of observation. Useful questions are: What did they focus on, why, how often did they shift their focus, what caught their attention etc.

Required student knowledge prior to the zoo visit

Students should be familiar with:

- Ecological roles of organisms and lifecycles
- Energy pyramids, food webs
- The kingdoms of life

Teaching Strategies

- Emphasise that the process followed for this activity is what biologists actually do. The process is:
  1)Preparation for a study or experiment
  2) gathering the data (the zoo visit)
  3) analysing the data and publishing it.
- Use the analogy of preparing for going to the field, collecting data in the field and finally analysing the data and publishing it.
- Field-book- This may be collected to check that students were on task
- Allow student time for discussion before working on final questions.
- An analysis of the role of fruit bat may be used as a model or tie up

Evaluation

- Marking of field-book
- Marking of questions that analyse the data gathered at the zoo

Extension activities

1) Bats and the rainforest

Background

There are nearly 1000 species of bats world-wide. In tropical rainforests bats can constitute more than half the species of mammals. In some areas their biomass may equal more than half of all other mammals combined.
In the rainforest, bats are the most important seed-dispersing animals. They

are also the primary pollinators of hundreds of tropical plants and trees. Bats contribute up to 95 % of the seed dispersal that leads to forest regeneration.

Activity

- Draw the food web for the bats
- Examine the impact of a decrease in the bat population on the health of the rainforest
- Suggested students perform this in groups of four using a concept map

Resources

- Bat Conservation International- www.batcon.org
- National Geographic magazine May 2002- excellent article on the importance of insect eating bats

2) Web of life (ecological relationships)

- Discuss the components of habitat (food, shelter, environmental factors)
- Students form a circle with one student holding a ball of yarn.
- They name an animal they have chosen at the zoo. Other students are asked to name something the animal needs to survive.
- As students contribute ideas the ball of yarn is passed around until all students are connected to others.
- The instructor proposes various scenarios that would have an effect on one or more component. The student who was affected gave a tug on the yarn. Everyone who felt the tug tugs back. Used to demonstrate the inter-relationship of species.
- This may be done with the examples of bats as described above. *Optional: Can start removing individuals (extinction) to demonstrate the breakdown of the food web.*

Ecological Interactions- Activity 1

Student Worksheet

Background

You will be working as a field biologist for a wildlife conservation foundation. Before going out to the field (the zoo) you should have completed all your preparation and be familiar with key words and concepts (see below). **Your aim is to collect data and make observations. This will require a field-book and taking the time to do careful detailed observations.**

Definitions

Trophic level- each step in the food chain

Producer (1st trophic level)-organisms that obtain their energy from the sun through photosynthesis
Examples: green plants, cyanobacteria

Consumer (2nd trophic level) - a herbivore (plant eater)
Examples: grasshopper, chickadee, cow, parasitic plants

Consumer (3rd trophic level) - First-level carnivore (meat eater)
Examples: spider, hawk, wolf, parasites

Note: there may be up to 4 levels of carnivores

Decomposer-organism that feeds on dead organic material
Examples: fungi, flies, bacteria
.
Omnivore- organism that eats both plants and animals
Examples: bear, human, mullein bug

Food chain- a description of the way energy flows in a system. Each link in the chain feeds on and obtains energy from the stage preceding it. Most food chains are only 3 to 4 links long.

Food web- All food chains in a community make up a food web. A pictorial representation of the feeding relationships amongst organism in an ecosystem

Energy pyramids- the amount of energy available at each trophic level

Ecological niche- the function or role of a species within an ecosystem; everything an organism does to survive and reproduce, including its place in the food web, its habitat, its breeding area and the time of day it is most active.

Questions

On-site questions (all questions should be answered in your field-book)

Select an animal that interests you. Observe that animal for at least 15 minutes. Write down what you hear, smell, see. You may use a combination of words, poems, and pictures. Record your observations in your field book. (Repeat for 2 different animals).

1) What is the ecological role or niche of your animal?

2) What other organisms does your animal interact with during its life in the wild?

3) What kingdoms are the other organisms from that your animal interacts with?

4) What are the ecological roles of the organisms from other kingdoms that your animal interacts with?

Analysis of data

1) Examine your field notes for one of the animals you selected. Draw a food web. Describe the ecological role of each organism in the web.

2) Draw an energy pyramid that includes your animal.

3) What would happen to the food web if your animal's population became extinct? Draw a new food web showing the changes and provide a written explanation.

Species at Risk- Activity 2

Teacher Notes

Introduction
This activity should begin in the African pavilion and if time permits either the Americas or Indo-Malayan regions should be examined. The activity focuses on species at risk and allows students to examine this through an ecosystem perspective.

Expectations (Ministry)
Overall Expectations
- Demonstrate an understanding of factors that influence the sustainability of the natural environment and evaluate their importance
- Analyse how various factors influence the relationships between organisms and the natural environment

Understanding Basic Concepts
- Describe and evaluate factors contributing to environmental resistance and a change in the carrying capacity of ecosystems
- Define population growth and identify the factors that influence it

Developing Skills of Inquiry and Communication
- Investigate, independently or collaboratively, the effect that human population growth has on the environment and the quality of life

Materials:
At zoo: Field-books, worksheets
In class: markers, flip-chart paper

Pre-activity- Introduction to simple concept maps and a review of ecological terms Time: 15-20 minutes

Concept maps are useful tools as they utilise multiple forms or intelligence (as described by Gardner). A good concept map consists of descriptors, and connectors. Colours and pictures enhance concept maps as a learning tool.

Main concept – the map begins here. There is not always a central concept.

Descriptor- subordinate concepts

Connector-statements linking the descriptors. They include an arrow that shows the direction of the link

1. Have students get into groups of 4 and choose one role: timer, scout, clarifier, encourager.

2. Have students print the following concepts (descriptors) on scrap paper or flip chart paper. Encourage them to add pictures as well.

Food niche	Decomposer
Decomposer	Omnivore
Producer	Chemosynthesis
Photosynthesis	Carnivore
Detrivore	Herbivore

3. Arrange the descriptors to form a concept map. Use connectors (arrows showing the direction of relationship and a word that shows the relationship) to join the descriptors.

4. Check to ensure the map has the features of a good concept map. (Note: examples of concept maps may be found in the back of course textbooks)

Required student knowledge prior to the zoo visit

- Factors that determine carrying capacity- include quantity and quality of food, water, space, shelter and suitability arrangement.
- What is a species at risk?
- Know definition of population growth and factors that affect it.
- Experience using concept maps

Teaching Strategies

- If students are not familiar with using concept maps. The pre-activity may be useful as a review and to practice using concept maps prior to the zoo visit.
- Emphasise that the process followed for this activity is what biologists actually do. The process is:
  1) Preparation for a study or experiment
  2) gathering the data (the zoo visit)
  3) analysing the data and publishing it.
- Field-book: This may be collected to check that students were on task
- In using concept maps encourage the use of colours and pictures
- If students are stuck on the concept map provide a time period where the scout can look at other groups maps.
- Compare logging in tropical rainforests to logging in Canadian forests during the discussion of the concept maps
- Finish the lesson with a discussion of personal actions students can take to make a difference

Evaluation

- Marking of field-book
- Marking of questions that analyse the data gathered at the zoo

Resources

- Environment Canada website: www.speciesatrisk.gc.ca- fact sheet on why animals become endangered
- 1998. Beecham's guide to international endangered species
- Website: http:\\forest.org Provides linkages to a diversity of sites. An excellent starting point

Guidelines for Student Questions 2to 4

2) habitat protection, law enforcement e.g. anti-poaching, laws for illegal animal trade, captive breeding and reintroduction, research on biology, ecology, reproduction, education

3) habitat loss, roads allow easier access- increased poaching, bushmeat, illegal animal trade, erosion, flooding, water holding capacity, loss of key species, disruption of ecosystem,

1) a) be an environmental consumer example support products that promote sustainable rainforest

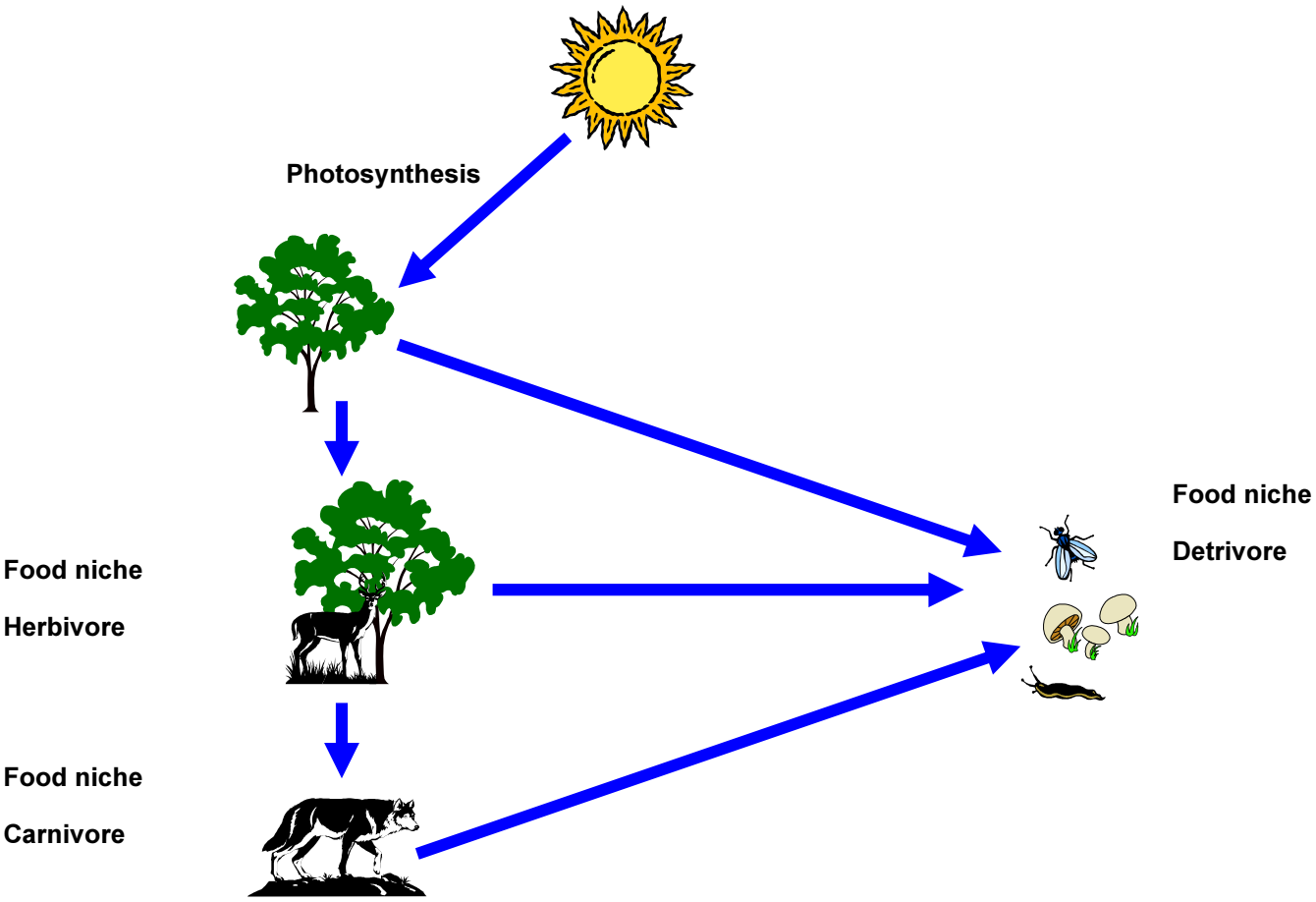
b) Home remediation- recycling, provide habitat (many migratory songbirds spend winters in rainforest of central and south America and summers here)

c) Spread the word (educate others)

d) Join a rainforest protection group

e) Address the problem through letter writing to national and international

Concept Map


Photosynthesis
Food niche
Herbivore
Food niche
Carnivore
Food niche
Detrivore

Species at Risk -Activity 2

Student Worksheet

Background

You will be working as a scientific reporter for National Geographic. Before going out to the field (the zoo) you should have completed all your preparation and be familiar with key words and concepts. **The purpose at the zoo is to collect data and make observations. This will require a field-book and taking the time to do careful detailed observations.**

Definitions and Concepts

***IUCN Categories for Species at Risk,1996**

Status	Criteria	Example
Extinct (EX)	**No living individuals exist**	**Dodo Bird**
Extinct in the wild (EW)	**Exist only in captivity**	**Prezwalski's horse**
Critically endangered (CR)	♦ Population down 80% in last decade **or** ♦ Habitat less than 100 km **or** ♦ Less than 250 individuals or 50 mature individuals	**Siberian tiger**
Endangered (EN)	♦ Population down 50% in last decade **or** ♦ Habitat less than 5000 km **or** ♦ Less than 2500 individuals or 250 mature individuals	**African elephant**
Vulnerable (VU)	♦ Population down 20% in last decade **or** ♦ Habitat less than 20 000 km **or** ♦ Less than 10 000 individuals or 1000 mature individuals	**Malayan tapir**
Conservation dependent (cd)	Need conservation or will be vulnerable within 5 years	**Polar bear**
Near Threatened (nt)	Nearly vulnerable	**Hippopotamus**

IUCN (International Union for Conservation of Nature and Natural Resources)

How do species become endangered?

- Each species has become adapted to fit in a particular ecological niche. When things change beyond a certain limit some species no longer prosper and their numbers decline.
- There are many complex and interrelated reasons why species decline and become endangered.

The most important factors according to Robert May (1995) are:
1. Habitat destruction
2. Habitat fragmentation
3. Overkill
4. Invasive species
5. Secondary effects cascading through the ecosystem from other extinctions.

Carrying capacity- the maximum population size of a species that can be supported indefinitely by an ecosystem

Population: all the members of a species living in the same ecosystem or habitat

Population growth: The rate at which a population changes. This is affected by four key factors: Death, births, immigration and emigration

Questions

On-site questions (all questions should be answered in your field-book)

1. What are five species at risk you have observed? What factors have led to a decrease in the population of animals you observed? Record in a table using the headings presented below.

Example:

Species at risk	**Status**	**Factors**
Black-footed Ferret	Endangered	Extermination of prey species (prairie dogs) Habitat loss

2. What are three examples of what is being done to protect the species at risk that you have chosen?

3. Examine the animals of a rainforest in the African pavilion and another pavilion. Provide at least four specific examples of how logging effects the rainforest ecosystem. (**Make sure to visit the Dja research station**)

4. What are three positive actions that everyone can do to help preserve the rainforest?

5. Examine an animal exhibit that is indoors for at least 10 minutes. Record the animals you see. In your field-book write down what you see, smell, hear. Describe the

exhibit as best you can, record everything. What do you think of the exhibit? Do you think the exhibit is adequate for the animals needs? Can you see how and where the animal gets its food and water if so describe this. You may use pictures as well. Key things to focus on space/climate, prey (food), water, cover (plants, soil). **You may want to attend a "Meet the Keeper Talk".**

6. Repeat question 5 with an exhibit that is outdoors.

Analysis of data

1. For one of the species you recorded as being an animal at risk. Explain how the factors that have led to it being a species at risk impact carrying capacity and population growth.

2. Look at the data you recorded for questions 5 and 6. What determines the carrying capacity for the exhibits you examined?

3. Get into groups of four and choose a role: timer, encourager, clarifier, and scout. Construct a concept map showing the effects of logging on the rainforest. Use a combination of pictures and words. **Everyone has something to contribute**.

- Central concept: logging
- Impact of logging are your descriptors, include carrying capacity and environmental resistance
- Make sure you label your arrows (connectors) and show the directions of the linkages

4. In your group come up with a list of what can be done to protect species at risk at an individual, national and international level.

Conservation Issues- Activity 3

Teacher Notes

Introduction
The zoo visit would be part of an overall larger project that students are working on. The visit maybe useful as a starting point to give students ideas. It would also allow students to address key questions that will be part of the final product.

Expectations (Ministry)
Overall Expectations
- Demonstrate an understanding of factors that influence the sustainability of the natural environment and evaluate their importance
- Analyse how various factors influence the relationships between organisms and the natural environment
- Explain why it is important to be aware of the impact of human activities on the natural environment

Understanding Basic Concepts
- Define population growth and identify the factors that influence it
- Investigate and explain how a change in one population can affect the entire food web
- Investigate, independently or collaboratively, the effect that human population growth has on the environment and the quality of life

Relating Science to Technology, Society, and the Environment
- Analyse, from a variety of perspectives, the risks and benefit to society and the environment of applying scientific knowledge of ecosystems or introducing a particular technology (e.g., examine the effects of introducing a species into an environment)

Pre-activities:
1. Have students brainstorm on why save an endangered species.

The 4 main reasons are:
- Utilitarian- provides income such as through ecotourism
- Ecological- helps environment
- Aesthetic- beauty of creature
- Moral- right of other creatures to exist

2. Examine a successful Canadian species recovery program. Students should answer the guiding questions that are included on the student handout. Examples of successful recovery programs for the Swift Fox, Trumpeter Swan, Ferruginous Hawk, Peregrine Falcon, Whooping Crane & Wood Bison are available at: **www.speciesatrisk.gc.ca**

Materials:
Zoo: Field-book, worksheets
Classroom: access to Internet

<u>Prior knowledge to the zoo visit</u>
- Knowledge of the species survival plan
- Understand the role of zoos in conservation
- Awareness of projects the zoo is involved in

Evaluation

- Marking of field-book
- Marking of questions analysing the data
- Marking of poster (a rubric is provided)

Teaching Strategies

- Students take on roles in making posters for a suggested audience.
- Preliminary research occurs at the zoo
- Poster presentations are shared through a carousel activity.
- Carousel activity

1) Students set up their posters.
2) One member of the group stays with the poster to answer questions.
3) The other group members have a set amount of time to visit other group's posters (10-15 minutes).
4) Another period then begins. A different student from the group stays with the poster.
5) This continues until each group member has had a chance to stay with the poster.

- Students work in groups of 4 on the poster. Roles should be assigned to each student.

Resources

- Conservation in Action pamphlet-Toronto Zoo
- Presentation on zoos and conservation by the Education department of the Toronto zoo
- Toronto Zoo website-www.torontozoo.com section on conservation has useful information
- **http://www.well.com/user/davidu/extinction.html** is a web site with many connections on the topic of mass extinction
- American Zoo and Aquariums Association-ww.aza.org/conscience provides specific information on the species survival plan

Conservation Issues -Activity 3

Student Worksheet

Background

Your company of environmental consultants has been awarded a contract to study the risk and benefits of reintroducing a species. You will select a species at risk you observe at the zoo. **Your job as a group is to design a poster for public education explaining the issue.** The poster must contain a mix of visuals and written information. The written information should be concise and clear. **Furthermore, there are questions you must answer individually.**

Definitions and Concepts

*IUCN Categories for Species at Risk, 1996

Status	Criteria	Example
Extinct (EX)	No living individuals exist	Dodo Bird
Extinct in the wild (EW)	Exist only in captivity	Prezwalski's horse
Critically endangered (CR)	♦ Population down 80% in last decade **or** ♦ Habitat less than 100 km **or** ♦ Less than 250 individuals or 50 mature individuals	Siberian tiger
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Vulnerable (VU)	♦ Population down 20% in last decade **or** ♦ Habitat less than 20 000 km **or** ♦ Less than 10 000 individuals or 1000 mature individuals	Malayan tapir
Conservation dependent (cd)	Need conservation or will be vulnerable within 5 years	Polar bear
Near Threatened (nt)	Nearly vulnerable	Hippopotamus

IUCN (International Union for Conservation of Nature and Natural Resources)

Questions- onsite

1. What are five species at risk you have observed? What factors have led to a decrease in the population of animals you observed? Record in a table using the headings presented below:

Example:

Species at risk	Status	Factors
Black-footed Ferret	Endangered	Extermination of prey species (prairie dogs) Habitat loss

2. What are two examples of what is being done to protect the species at risk you chose? Example: Black-footed Ferret- Captive breeding, reintroduction to wild.

3. What are two of the roles zoos play in species conservation? Provide examples for each role.
   Example: Zoo involved in breeding of black-footed ferret

4. Choose one of the species at risk for your poster assignment. Observe the animal for 15 minutes. Write down what you see hear, smell, see, feel. You may use a combination of words and pictures. Record your observations in your field-book.

Post-Visit Activity

1. Using the observations you recorded at the zoo write a narrative, monologue, song lyrics or poem that will help people to understand why this animal should be saved. Alternatively: Write a proper letter to the Minister of Natural Resources detailing the importance of the species being observed, and why we should provide funding to aid in its conservation.

Poster

Objective: To produce a poster to educate the general public on why or why not a species should be reintroduced to the wild.

The following questions should be answered in your poster.
Try and keep answers to 100 words or less. Present in simple and easy to read format.
Make sure to look at the rubric for what is expected.

Guiding questions for assignment

Background

1. What caused the species to disappear or population to decrease?
2. When were they plentiful and when did they disappear or the population start to decrease (graph to show population trend)?

3. Where was their previous habitat as compared to now (a map would be useful)

Impact of reintroduction

4. What are the possible effects on the ecosystem of reintroducing it (both positive and negative)?
5. What needs to be changed for a successful reintroduction?
6. Who will be effected by reintroduction?
7. What are benefits of reintroducing the species?
8. What are the risks of reintroducing the species?

Recommendation

9. What is your final recommendation should the species be reintroduced. Justify your decision.

SPECIES REINTRODUCTION POSTER- RUBRIC

Criteria	Level One	Level Two	Level Three	Level Four
Background Information	• Insufficient detail	• Missing several level 4 items; more detail required	• One of level 4 items is missing	• Detailed map • All questions answered • Concise, easy to read • Information is accurate • Sources are quoted
Information on Impact of Reintroduction	• Insufficient detail	• Missing several level 4 items; more detail required • Layout could be improved	• One of level 4 items is missing	• All questions answered • Concise, easy to read • Information is accurate • Thorough research • Sources are quoted
Recommendation	• Insufficient detail	• Missing several level 4 items; more detail required	• One of level 4 items is missing	• Recommendation are logical • Concise, easy to read • Thorough research
Graphics	• Insufficient detail • Poorly organized	• Missing several level 4 items; more detail required • Layout could be improved	• One of level 4 items is missing	• Labeled • Neat, clear • Complements text • Variety of graphics
Language	• Grammar and spelling distract from meaning	• Multiple spelling errors • Multiple grammar errors	• One of level 4 items is missing	• Spelling is all correct • Grammar is all correct
Overall Appearance	• Does not have text and graphics • Poor logical flow	• Missing several level 4 items; more detail required • Layout could be improved	• One of level 4 items is missing	• Graphics and text complement each other • Easy to read • Clear • Professional appearance • Logical flow

Student Activity Evaluation Form

Please let us know how useful you found these activities. When you return a completed evaluation to us we will send you an attractive poster about gorilla reproduction and endocrinology. *Please return to:*

Education, Toronto Zoo
361 A Old Finch Ave.
Toronto, ON M1B 5K7
FAX: 416-392-5948

Date: _____ Grade Level: _____.

Subject:_____, Your Name:_____,

School:_____,

Please rate the following on a scale of 1 to 5 : 1 poor; 2 fair; 3 satisfactory, 4 good, 5 excellent

1. The activities were appropriate for the curriculum. 1 2 3 4 5

2. The language level was suitable for your students. 1 2 3 4 5

3. The tasks were clearly explained and easily understood by the students. 1 2 3 4 5

4. Did you use this activity as part of your evaluation process for students? (Y / N)

5. Did you or will you be visiting the Toronto Zoo with yours students? (Y / N)

6. Would you use these activities again? (Y / N)

7. How would you change the activity to be more useful?

8. Did you use any other Zoo teaching resource material? (Y / N) (What?)

9. Are there any other kinds of resources you would like the Zoo to provide to support your visit?

10. Do you have any other comment?