Lesson Description

The forests of Sumatra are home to some of the rarest animals and plant species in the world. It is also the only place on earth where tigers, rhinos, orangutans and elephants live together. About 12 million hectares of forest in Sumatra have been cleared in the past 22 years which is a loss of nearly 50% of its total forested area. The forests are being cleared due to illegal or commercial logging and also large scale forest conversion for more palm oil plantations to accommodate the worlds growing demand for palm oil. Also rampant poaching has threatened these species with tigers being poached for their skins, orangutans are taken for entertainment and tourism and rhinos are killed for their precious horns. All these human activities have resulted in the loss of critical habitat for animals and plants. As a result the Sumatran tiger and rhino are on the critically endangered species list. Orangutans and elephants are on the endangered species list or at risk of being endangered. Shockingly there are fewer than 400 Sumatran tigers and 300 Sumatran rhinos left in the wild.

This lesson has been designed to raise student’s awareness of these endangered animals and to allow them to apply their knowledge from previous lessons to create posters to raise community awareness. Students will be able to use their previous knowledge to understand the positive and negative impacts of human interaction with natural habitats to assess and evaluate the effects this will have in the future. Students will also be given the chance to identify, link and explain reasons for the depletion of the tiger, rhino, orangutan and elephant species. By identifying and explaining reasons for depletion students will be able to evaluate the impacts on the rest of the community through art. Students will be given the opportunity to stretch their creative muscles to produce a large poster depicting the present day Sumatran forest habitat and animals juxtaposed with what they think and hypothesize will happen to the Sumatran natural environment if humans continue their negative path of deforestation, poaching and logging. The students will also apply their knowledge of principles of design to create effective posters that convey emotion, ideas and understanding of the topic. The posters will be used to raise awareness and draw attention to this environmental issue within the school.

Furthermore, this lesson can be easily linked to student’s prior knowledge or future study of the topic of deforestation in Canada. In Canada the Boreal Forest stretches across the top of the country; stretching from the Yukon and north eastern British Columbia to the northern parts of the Prairie Provinces, Ontario, Quebec and to Labrador and Newfoundland. This region is home to 450 bird species and mammals such as moose, wolves, bears, rabbits, lynx and mink. Over 2.5 million Canadians live in the Boreal region where forestry is a mainstay of these communities. However there are also large scale industries such as mining, oil and gas extraction as well as hunting and trapping. All these human activities which can result in deforestation and loss of habitat have a large impact on the mammals, animals, plants and insects living in the Boreal region. Students could easily compare and contrast the situation in Sumatra with Canada’s Boreal Forest.
### Big Ideas/Essential Question

- How changes to habitats can affect plants and animals and the relationships between them.
- have students create posters to place around the school to raise awareness of the effect humans have on the environment → focus on endangered species

### Ontario Curricular Overall Expectation

**Science and Technology:**
- Investigate the interdependence of plants and animals within specific habitats and communities
- Demonstrate an understanding of habitats and communities and the relationships among the plants and animals that live in them

**Arts: Visual Arts**
- Creating and presenting: apply the creative process to produce a variety of two- and three-dimensional art works, using elements, principles and techniques of visual arts to communicate feelings, ideas and understandings

### Ontario Curricular Specific Expectation

#### Science and Technology Specific Expectations:

1. **1.1** Analyse the positive and negative impacts of human interactions with natural habitats and communities taking different perspectives into account and evaluate ways of minimizing the negative impacts.

2. **1.2** identify reasons for the depletion or extinction of a plant or animal species (*e.g.*, hunting, disease, invasive species, changes in or destruction of its habitat), evaluate the impacts on the rest of the natural community, and propose possible actions for preventing such depletions or extinctions from happening

#### The Arts:

**D1.2** demonstrate an understanding of composition, using selected principles of design to create narrative art works or art works on a theme or topic

### Lesson Goals

- To have students demonstrate an understanding of the effects humans have on the depletion of forest, poaching and logging on the environment (within the specific context of Sumatra) through the creation of a large poster
- The posters are to be hung around the school to raise school and community awareness

### Key concepts and/or skills to be learned/applied: Background Knowledge:

<table>
<thead>
<tr>
<th>Key concepts and/or skills to be learned/applied:</th>
<th>Background Knowledge:</th>
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</thead>
<tbody>
<tr>
<td>What does endangered mean? Extinction?</td>
<td>What a habitat is</td>
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<tr>
<td>Evaluate impact humans have on the environment and the impact that creates</td>
<td>Some previous introduction on the Sumatran forest habitat and habitation</td>
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<tr>
<td>Identify reasons for depletion of Sumatran tigers, rhinos, elephants, orangutans</td>
<td>Effects of human interactions on environments</td>
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<tr>
<td>Create a poster to show understanding of composition to create a narrative/topical</td>
<td>Knowledge of tigers, orangutans, elephants, rhinos (either experiential, informally, formally)</td>
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<td>An idea of the interdependence of plants and</td>
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Where did they go?
A study of The Sumatran Forest and its Endangered Species
Publication Year: 2010
where did they go?

A study of The Sumatran Forest and its Endangered Species

<table>
<thead>
<tr>
<th>Student Groupings</th>
<th>Instructional Strategies</th>
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<tbody>
<tr>
<td>Whole class</td>
<td>Discussion led by teacher</td>
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<tr>
<td>Groups of 6-8 for endangered species awareness poster creations</td>
<td>Discussion led by students in their groups</td>
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<td></td>
<td>Co-operative learning/work between students in their small groups</td>
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<td></td>
<td>Hands-on art activity</td>
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<td>Application of students knowledge</td>
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**Materials**

- Projector to show power point (if you have access to one)
- Roll of Brown Kraft paper (preferably made from recycled materials) cut into 36 inches X 72 inches
- Tempera paints
- Paint brushes
- Old magazines to cut/tear
- Construction paper
- Scrap paper
- Tissue paper
- Glue
- Glitter
- Scraps of cloth and natural materials
- Any other art material you want students to use
- Recycled materials students can repurpose and use on poster to create texture, 2- and 3-dimensional objects such as paper towel tubes, toilet paper rolls, egg cartons etc.

**Considerations**

- Leave PowerPoint slide show on (only if you have access to a projector or let it run on a lap top)
- Have pictures of animals and Sumatran forest for students to reference and take inspiration from

**References/resources;**

- Information on Palm Oil: [http://wwf.panda.org/what_we_do/footprint/agriculture/palm_oil/environmental_impacts/forest_conversion/](http://wwf.panda.org/what_we_do/footprint/agriculture/palm_oil/environmental_impacts/forest_conversion/)
- Information on Sumatran Forests and Wild Life: [http://wwf.panda.org/what_we_do/where_we_work/sumatra/](http://wwf.panda.org/what_we_do/where_we_work/sumatra/)

**Accommodations**

- Since this is mainly an art activity incorporating science knowledge, accommodations and modifications may be necessary for the small group art project. It may be necessary to pre-select the groups ahead of time to have a wide variety of skill levels in art and science within each group by placing strong and weaker students together.
- Discussions will be open to students who feel comfortable

**Stage 3: Learning experience and instruction**

**Motivational Hook (3 MINS.):**

- Show students a video clip of T2: Tiger Campaign run by the World Wildlife Fund found on Youtube but can be downloaded to your laptop/desktop: [http://www.youtube.com/watch?v=52XvI8BNgo](http://www.youtube.com/watch?v=52XvI8BNgo)
- Show video of rare Sumatran tigers caught by an infrared video trap: [http://www.youtube.com/watch?v=Yud3ymLsuo&feature=channel](http://www.youtube.com/watch?v=Yud3ymLsuo&feature=channel)
* The videos are to draw students in and make them understand how endangered tigers are. Every child knows of tigers and loves animals. The first video is for shock value because it gives students the straight facts on how endangered tigers are. The second video clip is to let students observe two tiger cubs in their natural habitat which can be discussed and noted during the class discussion. This also applies to their previous knowledge because at this point students should be able to understand habitats and identify parts from the video.

### Open (15 MINS):

- Have power point ready with high quality pictures of Sumatra and of animals the live in the Sumatran Forests for students to look at while discussing this topic
- Ask students if they know where Sumatra is on the map. If they are not sure, show them
- Discuss the issues raised in the video clips such as logging, deforestation, poaching and have students explain why this affects the population of the tigers, rhinos, elephants, and orangutans living in Sumatra → have students explain their thinking
- Talk about palm oil and the positive impact it has on our lives (it is a main ingredient in packaged foods, shampoos, detergents, lip sticks, chocolate bars) and the negative impact it has had on Sumatran Forests → deforestation
- Activate students prior knowledge of habitats, the interconnectedness of habitats, humans, plants and animals and principles and techniques of visual arts
- Show students examples of effective World Wildlife posters from their ad campaigns and ask students to think of what makes a good poster (ex. Not a lot of text, focus on images, eye-catching, thought/mood provoking etc.)
- Introduce activity and ask students to brainstorm ideas as a class some ideas of what they could put on their poster such as images, the types of animals, plants etc.
- place students in groups, give each group their pre-cut Kraft Paper and have art supplies ready to go for students to use

### Body (45 MINS):

- Have students work together to create their posters
- While students are working walk around to the groups and ask them questions on what they are doing such as:
  - “How can you arrange and cluster the objects to create a focal point with the emphasis on the most important ones?”
  - “What images have you chosen? Why?”
  - “How can you use contrast, emphasis, or variety to capture students’ attention and communicate your message?”
  - “How is development affecting natural habitats how are you depicting this in your poster?”
- Offer support, help and guidance to students that ask or look as if they are struggling

### Close (7 MINS):

- Have students quickly tidy up the classroom (2 minutes)
- For the last 5 minutes go around the room having the groups share their posters and what they chose to depict

### Extension Activities

- Students who finish their poster early can work in their groups to brainstorm ideas on what can be done to help preserve the Sumatran Forests and help endangered species
- Can also get students to use critical thinking and research skills to come up with a creative action plan on how they can help out

### Link to Future Lessons

- Later have students present their posters to a younger class such as a grade 1 or 2 classroom (with permission of the other teacher of course) to raise awareness. It also allows students to share their knowledge and understanding of what they have learned and to tailor it to a younger audience (incorporating Language Arts)
- Have students compare the situation in Sumatra to Canada’s Boreal Forest → compare and contrast the situation and look at ways in which Canadians can prevent what is happening in Sumatra from occurring
• Have students create a podcast
• The endangered species idea can be created into a unit theme and incorporated across subject areas

Assessment
• Using observation and a checklist
• Looking for and watching for students to see if they contribute to the endangered species awareness poster
• That student has engaged in and participated in discussions within their peer groups and/or class
• Students have applied their scientific knowledge of habitats, effects of humans etc. and artistic knowledge to their posters in a creative manner
• Students communicated their final work to the class
• Can also have students either write in their journal explaining their poster, create a podcast, newspaper article or visual representation of the impacts the extinction of tigers, rhinos (whatever animal of their choosing or all of them in general) on the rest of the natural community and the possible actions to prevent these possible extinctions
• Students should be able to show their understanding and communicate it effectively.

REFLECTION: