ELEPHANATICS

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***Rewilding***

***Grades:*** 6th-12th

***Issue or Problem:*** Human activity is degrading ecosystems and driving biodiversity loss faster than ever before. As the human population continues to expand and we increase our footprint into more and more wild and undisturbed places, we cause irreversible damage to natural habitats and the plants and animals that live there. This is especially true for our larger-sized animals (or megafauna). This historically pushes plants and animals towards extinction, but also causes the ecosystem to cease functioning properly, which directly affects our own well-being. Rewilding aims to restore healthy ecosystems by creating wild, biodiverse spaces that are self-sustaining without human interference. It rebuilds ecosystems that have previously been modified by human disturbance, using the plant and animal life that would have been present had the disturbance never occurred. In doing so, rewilding restores the natural processes that provide humanity with clean air, water, food, shelter and medicine.

***Objectives:*** By the end of the lesson, students will:

- Be able to explain how an elephant is a keystone species
- Be able to define what Rewilding is in the context of ecosystem management
- Be able to think critically per the pros and cons of rewilding
- Be able to share their opinion per rewilding through a journaling exercise using what they learned in class about the pros and cons of rewilding

***Materials:***

- ✓ Chalk board, Smart board etc.
- ✓ PowerPoint of Elephants as Keystone Species
- ✓ Definitions of Rewilding PDF
- ✓ Access to Ted Talk- "For more wonder, rewild the world" (15 minutes)
- ✓ Rewilding story cards for research
- ✓ NPR story or background information on the story of The Dutch Oostvaardersplassen

***Background Information for Teachers:***

Information taken from *Guiding Principles for Rewildiing (attached as PDF to this lesson)*- The concept of rewilding emerged in North America in the 1980s, where it was originally called "wilderness recovery"

and has become increasingly popular worldwide. Originally, rewilding concerned safeguarding and restoring native biodiversity through large-scale, interconnected networks of reserves established primarily to protect keystone species and their relationships in the food web. In 1998, a landmark paper describing the scientific basis for rewilding was written by Soulé and Noss. They described three key features: large core protected areas, ecological connectivity, and carnivores as keystone species. Also known as the 3 C's ; Cores, Corridors and Carnivores. It was then refined with the addition of coexistence (between humans and wildlife), compassion (for other living beings) and climate resilience.

Rewilding projects have been initiated around the world as a response to biodiversity loss and as a nature-based solution to the climate crisis. Rewilding has evolved to encapsulate a range of themes, including the relationships between humans and nature, deep ecology, ecotourism, and bushcraft. It provides a more eco-centric view on humans and nature (as opposed to current predominantly anthropocentric views).

The driving force behind rewilding is that even where there are large-scale areas protecting ecosystems, biological communities continue to unravel and species are still being lost. The sixth mass extinction underway is being driven largely by human population growth, overconsumption and resource exploitation, habitat loss, and rapid climate change. Although many traditional modes of conservation are rearguard actions to conserve nature before it is being lost, rewilding is an optimistic approach that demonstrates reversal of the loss of natural ecosystems and their key components and benefits to human well-being. **Note**: climate change has always existed and has been the main driver of ecological change, but humans are accelerating climate change which is more challenging for species to adapt, especially with the loss of resilience of most ecosystems.

From the beginning, *rewilding* has referred to the science-based restoration of self-regulating ecosystems and to a transformation in human–nature relationships.

***Activities:***

***Activity 1: What is a keystone species? Elephants as Keystone Species***

Review with your students how elephants are a keystone species. You may wish to use the PowerPoint, created from Lalibela Game Reserve at https://lalibela.net/a-keystone-species-the-importance-of-elephants-on-the-ecosystem/

***Activity 2: What is Rewilding?***

Definitions of Rewilding

Wikipedia Definition: Rewilding, or re-wilding, activities are conservation efforts aimed at restoring and protecting natural processes and wilderness areas. This may include providing connectivity between such areas, and protecting or reintroducing apex predators and other keystone species.

True Nature Foundation definition: Rewilding is a form of environmental conservation and ecological restoration that has significant potential to increase biodiversity, create self-sustainable environments and mitigate climate change. Rewilding aims to do this by reintroducing lost animal species to natural environments. It is aimed at restoring natural processes and wilderness areas, providing connectivity between such areas (corridors), and reintroducing large herbivores, predators and/or keystone species.

Elephanatics' Dr. Rene Beyers et. al (from *Guiding Principles for Rewilding*): Rewilding is the process of rebuilding, following major human disturbance, a natural ecosystem by restoring natural processes and the complete or near complete food web at all trophic levels as a self-sustaining and resilient ecosystem with biota that would have been present had the disturbance not occurred. This will involve a paradigm shift in the relationship between humans and nature. The ultimate goal of rewilding is the restoration of functioning native ecosystems containing the full range of species at all trophic levels while reducing human control and pressures. Rewilded ecosystems should—where possible—be self-sustaining. That is, they require no or minimal management [nature doing what nature does], and it is recognized that ecosystems are dynamic.

Group think-

1. Write the word WILD on the board and ask your students what the word means. After you cover the word Wild, write the word REWILDING on the board and ask you students what they think this might mean.
2. Break students up into small groups to create their definition of rewilding (you can allow them to use additional resources such as articles, websites etc. if you'd like)
3. Have the groups share their definitions. Then provide them with the three provided definitions. Have them review and discuss these definitions. How were they like and different then their definitions?

***Activity 3: Rewilding Stories***

1. Have your students watch- "For more wonder, rewild the world"
2. Break students into five groups and give each group a *Rewilding Story Card:
   - Grey wolf, Yellowstone US
   - Bison, in the Netherlands and Romania
   - Beaver, United Kingdom
   - Giant tortoise, Galapagos Islands
3. Have each group research their rewilding story and create a short 2-5 minute presentation for the class.

***Activity 4: Student Opinions***

1. After the presentations ask your students some of the following questions.
   a. Do they think rewilding is a positive or negative thing ?
   b. What impacts does rewilding have?
   c. Are there things to be concerned about when it comes to rewilding?
   d. "What do you think needs to change in humans and their relationship with nature to make rewilding possible?
2. Share with students the story of "The Dutch Oostvaardersplassen " by listening to the story through WHYY.org . https://whyy.org/segments/the-netherlands-grand-rewilding-experiment-gone-haywire/ or you can use the information listed below from 'in additional background resources' for "The Dutch Oostvaardersplassen"

3. Have student's journal answering this question- Do they feel rewilding is the answer to conservation?

Additional background resources for the "The Dutch Oostvaardersplassen "

https://www.scotlandbigpicture.com/rewilding-stories/rewilding-gone-wrong

***Resources:***

Scientific Journal:

Carver, et al. 2021. Guiding Principles For Rewilding. Conservation Biology, 35 (6):1882-1893. (Dr. Rene Beyers, contributing author) & Elephanatics Director & African Elephant Specialist

Websites

https://truenaturefoundation.org/what-is-rewilding/

https://rewilding.org/

https://www.rewildingbritain.org.uk/explore-rewilding/what-is-rewilding

https://lalibela.net/a-keystone-species-the-importance-of-elephants-on-the-ecosystem/

Articles:

https://www.motherjones.com/environment/2013/06/rewilding-trek-west-conservation/

More simple explanation- https://www.scienceabc.com/nature/animals/what-is-rewilding-and-why-is-it-important.html

https://www.theguardian.com/environment/2014/sep/19/-sp-rewilding-large-species-britain-wolves-bears

Contains a good video on how wolves change rivers- https://sandiegoeco.org/rewilding-what-is-it-how-does-it-work/

Risks and Benefits-https://npansw.org.au/2021/08/31/rewilding-a-review-of-risks-and-benefits/

Risks and Benefits- https://www.iucn.org/resources/issues-briefs/benefits-and-risks-rewilding#:~:text=Rewilding%20has%20the%20potential%20to,and%20flood%20risk%2C%20for%20example.

Other:

https://www.ted.com/talks/george_monbiot_for_more_wonder_rewild_the_world

https://blog.cwf-fcf.org/index.php/en/rewilding/ Should We or Shouldn't We?

***A Place Like No Other: Discovering the Secrets of Serengeti*** a book by Professor Tony Sinclair with Dr René Beyers

*Rewilding Success Story Cards based off of this Guardian article- https://www.theguardian.com/environment/2018/jun/03/rewilding-conservation-bison-wolves-beaver-giant-tortoise-tigers