

Racing Extinction: #StartWith1Thing Virtual Field Trip Teacher Guide

Use the following activities before, during, and after the Racing Extinction: #StartWith1Thing Virtual Field Trip. Your students can follow along using the attached student worksheet.

I – Before the Virtual Field Trip

- Discuss questions about extinction, biodiversity and conservation.
 - What is biodiversity and why might it be important?
 - Explain the difference between an endangered species and an extinct species.
 - What is mass extinction?
 - What can be done to prevent mass extinction?
 - Give some examples of conservation work and justify why it is important.

- Discuss individuals and organisations that are involved in conservation.
 - Who protects and preserves our natural resources and takes action to prevent species extinctions?
 - What careers are there in the conservation field?
 - How can we contribute to the conservation effort?

Pre-trip research

Project	Resources	Description
Saving Species	http://www.savingspecies.org	Select “Projects” to learn about a unique conservation project that helped save the golden lion tamarin monkey from extinction.
One More Generation	http://onemoregeneration.org	Select “Our Story” to learn about how a 7– and 8–year old brother and sister team created an organisation to help educate about the plight of endangered species.
Manta Ray of Hope*	http://www.mantarayofhope.com	Select “Hope” to analyse the cost-benefit of measures to support manta ray conservation. *Please note that some of the images on this site depict images that some students may find disturbing.
Describe the work that is being done by: <ul style="list-style-type: none"> • Dr. Stuart Pimm • Carter Ries and Olivia Ries • Shawn Heinrichs How is their work stopping extinctions / conserving biodiversity?		

II – During the Virtual Field Trip

Students complete the worksheet questions as they view the Virtual Field Trip.

III – After the Virtual Field Trip

Part one:

Revisit the earlier questions about extinction, biodiversity and conservation to discuss further ideas.

Part two:

Class discussion responding to the following question:

How can we protect and preserve endangered species and fragile ecosystems?

- On the whiteboard or poster paper, write headings for individuals / organisations involved in conservation. As the discussion develops, list comments about the different approaches that can be undertaken in the field of conservation (include methods of raising awareness).
- Guiding questions to support the discussion:
 - How is science helping to prevent mass extinction?
 - How can captive breeding help to prevent extinction of species such as scarlet macaws?
 - Why is it necessary to raise awareness about biodiversity and loss of wildlife?
 - What simple steps can you take to support the conservation effort?
- Examine how individuals / organisations focus on different approaches:
 - SavingSpecies – using scientific evidence to inform its conservation decisions
 - Costa Rica Scarlet Macaw – reintroduction of species to former ranges
 - One More Generation – raising awareness about loss of wildlife and environmental issues
 - Manta Ray of Hope – analysing the cost-benefit of various activities relevant to manta ray conservation
- At the end of the discussion, students work in small groups to evaluate points on the whiteboard. Each group chooses one of the approaches (gathering scientific evidence, reintroductions, raising awareness, or cost-benefit of conservation) to explain how that approach helps to prevent extinctions and ways it can be adapted to support other conservation areas.
- Each group gives a short oral presentation on their conclusions.
- As a class compare and contrast the purposes and scope for expansion of each of the approaches to conservation.

Part three: Extension activities after the Virtual Field Trip

- Students work in small groups to respond to the call to action encouraging students to “start with one thing” and come up with classroom or group ideas.
- Groups come up with ideas and develop a written proposal for their idea. Each proposal is peer reviewed by another group. Proposals are assessed for SMART goals:
 - Specific – clearly defined tasks for what will be done to achieve the goals
 - Measurable – easily measured evidence that the goals have been accomplished
 - Achievable – realistic enough that the goals can be accomplished within a reasonable time given available resources and student skills and interest
 - Relevant – choose an appropriate cause, justify why it is worthwhile
 - Time-limited – a schedule that is realistic while challenging to students, including checkpoints and milestones (e.g., 30, 90 days)
- After the review, groups score their reviewed proposal from 0 to 20, assigning four points for each of the above five criteria.
- The class votes on the three proposals with the highest score out of 20.
- The class works together to implement the proposal with the most votes.

Activities utilising online resources

Activities	Resource
1. Show the <i>We Lit Up The World</i> video at the bottom of the “Challenge Yourself” webpage. 2. Students could also view the video <i>I Did It, and So Can You</i> on the “Challenge Yourself” webpage. 3. Students explore the #StartWith1Thing webpage and write a short passage how they will do one thing to reduce their carbon footprint. 4. Students explore the Racing Extinction Endangered Species Map and choose one species to research further. 5. Students use the information they gathered to create a concept map providing information about the conservation status of their chosen species, including <ol style="list-style-type: none"> a. Countries b. Range c. Population d. Habitat 	We Lit Up The World (video) I Did It, and So Can You (video) #StartWith1Thing (webpage) Endangered Species (interactive map) IUCN Red List Animal Diversity Web

Student worksheet

Complete this worksheet as you watch the Racing Extinction: #StartWith1Thing Virtual Field Trip. Refer to the organisations' websites for additional information.

Approaches to conservation

Describe how Dr. Pimm's scientific research will help prevent extinctions.

What is the purpose of reintroducing scarlet macaws to areas where they formerly lived?

How are Carter Ries and Olivia Ries raising awareness about extinction and environmental issues?

How could Shawn Heinrichs' work with local communities help wildlife other than manta rays?

Biodiversity

What is biodiversity?

Why is biodiversity important?

What is happening to Earth's biodiversity?

Extinction and biodiversity

What is extinction?

How do plants and animals become extinct?

What can be done to prevent extinctions?

Macaws

What factors have contributed to the decline of scarlet macaws in Costa Rica?

In what type of habitat do macaws live?

One More Generation

Describe three ways the One More Generation organisation is helping prevent extinctions and / or reducing our carbon footprint.

Which of One More Generation's youth empowerment projects will have the most impact? Explain your point of view.

RACING EXTINCTION

Reflection

Why is it important to prevent extinctions and save biodiversity? Explain your point of view.

Taking action

What is one thing you can do personally to help prevent extinctions?

How will you help to implement your class's conservation proposal?