

RESOURCE LIBRARY | LESSON

Sharing Solutions

Students create a grant proposal for their chosen solution to submit to potential funders. In addition to a written proposal, students discuss best practices for delivering a presentation and create a brief pitch to share their ideas with a live audience. They then share their ideas in a final presentation and evaluate their learning in the unit. This lesson is part of the *Extinction Stinks!* unit.

GRADES

6, 7, 8

SUBJECTS*Biology, Ecology, Conservation, Storytelling***CONTENTS**

3 Activities

In collaboration with



ACTIVITY 1: WISH? GRANT IT. | 1 HR 40
MINS

DIRECTIONS

*This activity is part of the *Extinction Stinks!* unit.*

1. Review the characteristics of strong grant proposals.

- Remind students about the conclusions they drew from the *Helping the Sumatran Rhino* activity after evaluating two competing grant proposals to help conserve the Sumatran

rhino.

- Ask students to list some of the strengths they saw in those proposals. Based on their evaluations, these may include:
 - Clear storytelling that draws in the reader
 - Justification rooted in research about the issues faced by the species
 - Connects to other species besides just the target species
 - Considers needs of human populations as well as nonhuman species
 - Reduces costs when possible, but is realistic when costs need to be high to save a species in crisis
- Remind students about the importance of telling a good story.
 - Use the *Elements of Storytelling* infographic to guide students to tell a story that draws in the audience and makes them want to learn more.

2. Give students time to work in their small groups on their grant proposals.

- Have students organize into their project groups and retrieve their *Grant Proposal* handout from the *Helping the Sumatran Rhino* activity.
- Facilitate collaboration among students as they draft each section of their grant proposal.
 - Remind them to follow the structure of the *Grant Proposal* handout and refer to the first four rows of the *Proposal and Pitch Rubric* to ensure that their proposal meets the criteria for the project.

3. Have students provide peer feedback on grant proposals and groups' solutions.

- Once students have worked on their proposals, have student groups exchange proposals to provide constructive feedback using the project rubric.
- Ask students to consider:
 - *What strengths can you identify in each other's work? Where could they improve?*
 - *If you were funding projects, what would persuade you to accept the proposal?*

Tip

Step 3: Instead of having groups exchange with another group, students could do a “gallery walk” of all the proposals to observe strengths and points of growth for grant proposals. Read more about this work-sharing technique at the [The Teacher Toolkit](#) website.

Tip

Step 3: Peer review can be a valuable process when it is executed well. Learn more about best practices in peer review from one English teacher who iterated his process over time to meet the needs of his students in this [Edutopia](#) article.

Informal Assessment

While students are working on their grant proposals, circulate and provide timely feedback if particular portions of the proposal could use more support. Intervene as needed if you notice interpersonal conflict, imbalance in work responsibility, or if a group is not on track to complete their grant proposal as scheduled. You can also use peer feedback as informal assessment of students’ work based on the depth and clarity provided to one another.

Extending the Learning

Have students explore what grants are available in real life for the kind of conservation they are trying to do. Several websites list grant applications and deadlines for those working with wildlife, including the [U.S. Fish and Wildlife Service](#), the [Land Trust Alliance](#), and the [Mohamed bin Zayed Species Conservation Fund](#). These grant submission websites often provide samples of strong grant proposals that show the level of detail needed to create a successful professional-level grant proposal.

OBJECTIVES

Subjects & Disciplines

Biology

- [Ecology](#)
- Conservation

Learning Objectives

Students will:

- Collaborate to write a grant proposal to support their idea for helping their target species.
- Provide peer feedback on others' proposals.

Teaching Approach

- Project-based learning

Teaching Methods

- Cooperative learning
- Information organization
- Writing

Skills Summary

This activity targets the following skills:

- 21st Century Student Outcomes
 - Learning and Innovation Skills
 - Communication and Collaboration
- 21st Century Themes
 - Environmental Literacy
 - Global Awareness
- Critical Thinking Skills
 - Analyzing
 - Applying
 - Creating
 - Evaluating
 - Remembering
 - Understanding
- Geographic Skills
 - Analyzing Geographic Information
 - Answering Geographic Questions
 - Organizing Geographic Information
- Science and Engineering Practices

- Constructing explanations (for science) and designing solutions (for engineering)
- Engaging in argument from evidence
- Obtaining, evaluating, and communicating information

National Standards, Principles, and Practices

COMMON CORE STATE STANDARDS FOR ENGLISH LANGUAGE ARTS & LITERACY

- **CCSS.ELA-LITERACY.W.7.1:**

Write arguments to support claims with clear reasons and relevant evidence.

NEXT GENERATION SCIENCE STANDARDS

- **Crosscutting Concept 2:**

Cause and Effect

- **ETS1.B: Developing Possible Solutions:**

There are systematic processes for evaluating solutions with respect to how well they meet the criteria and constraints of a problem.

- **MS. Interdependent Relationships in Ecosystems:**

MS-LS2-5. Evaluate competing design solutions for maintaining biodiversity and ecosystem services.

- **Science and Engineering Practice 7:**

Engaging in argument from evidence

- **Science and Engineering Practice 8:**

Obtaining, evaluating, and communicating information

Preparation

BACKGROUND & VOCABULARY

Background Information

Grant proposals are a common way that nonprofit organizations secure funding for important projects that support causes like protecting endangered species. The goal of a grant proposal is to convince a potential funder that your work will be effective and is worth the financial

investment. Telling a clear and compelling story is essential to getting funding for the project, as grants are usually highly competitive and hard to obtain.

Prior Knowledge

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Recommended Prior Activities

- [Bouncing Back from Extinction](#)
- [Challenges Faced by Endangered Species](#)
- [Ecosystems Help Everyone—Even Humans!](#)
- [Helping the Sumatran Rhino](#)
- [No Species Lives in Isolation](#)
- [SOS—Saving Our Species](#)
- [The Power of Story](#)
- [The Roots of Extinction](#)

Vocabulary

Term	Part of Speech	Definition
conservation	<i>noun</i>	management of a natural resource to prevent exploitation, destruction, or neglect.
endangered species	<i>noun</i>	organism threatened with extinction.
extinction	<i>noun</i>	process of complete disappearance of a species from Earth.
grant	<i>noun</i>	money given to a person or group of people to carry out a specific project or program.
grant writing	<i>noun</i>	process of applying to a person, business, or other organization for money or other funding.

ACTIVITY 2: PRESENT LIKE A PRO | 1 HR 40 MINS

DIRECTIONS

This activity is part of the Extinction Stinks! unit.

1. Model weak presentation skills and lead a debrief discussion to identify the characteristics of a strong presentation.

- Ask: *Why is presenting your pitch with a broader audience in mind important?* Possible responses include:
 - Evoking audience emotions to encourage them to act
 - Providing clear evidence to support the strength of a solution to secure funding
- Remind students of the presentation aspect of their proposal: Groups will be giving a two to three minute pitch of their proposed solution to help their target species, using the content they outlined in their grant proposals.
- Model weak presentation skills by giving a pitch that is low energy, has no story line, and does not provide adequate detail to be complete.
- After the weak presentation, ask students for ideas about what would have made the presentation more engaging or complete. Document their ideas in a visible place. Some aspects to highlight include:
 - Making eye contact
 - Speaking with a strong voice
 - Starting with a story that draws in the audience
 - Having summarized notes, such as note cards, to avoid reading from a script
 - Using images or words (when possible) to help guide the audience
- In addition to student-generated guidelines for a complete presentation, ensure that students understand your expectations for the following criteria:
 - Time limit (between two to three minutes)
 - Divide speaking time equally among group members
 - Including visual cues, if any (e.g., slide deck, pictures, poster)

2. Direct students to collaborate in their project groups to prepare and practice their proposal pitch.

- Provide students with time to prepare a pitch for their grant proposal as a group.
 - Ensure students use their group's Grant Proposal handout (provided during the Helping the Sumatran Rhino activity), so that all parts of the proposed solution are

included in their pitch.

- Students should divide speaking time equally and practice their presentation several times during class, if possible.
 - Let students know if you are inviting an outside audience on the final presentation day, and encourage them to be well prepared.
- Circulate and provide support in creating an energetic and informational pitch to present the information in their grant proposals.
- Remind students that to secure funding they will need to include all essential information from the [Proposal and Pitch Rubric](#).
- If some groups finish early, they can use each other as an audience to present to and provide one another with feedback.

Tip

Step 1: Consider referring back to the [Saving the Sumatran Rhino](#) video used in [The Roots of Extinction](#) activity as an example of a strong fundraising pitch. You can also use the TED Talks listed in “Extending the Learning” to provide examples of valuable skills to leverage in students’ final presentations.

Tip

Step 1: Student(s) could also model examples of weak presentation skills, using one of the grant proposals from the [Helping the Sumatran Rhino](#) activity or an entirely unrelated topic, to facilitate engagement.

Tip

Step 2: Some students may need help moving from reading a list of the requirements to giving a compelling, well-organized pitch. Having students write parts of their presentation on note cards or sticky notes and rearranging them into a logical order may help, as can encouraging students to lead with a “hook” that draws in the audience.

Informal Assessment

Listen to student groups as they practice, making sure to visit each group during the class period. If there is sufficient time, you could also have students do a run-through of their presentation, allowing you to offer positive and constructive feedback.

Extending the Learning

Have students watch TED Talks related to wildlife conservation and protecting endangered species. Several strong examples include [Richard Turere](#), [Moreangels Mbizah](#), and [John Kasaona](#).

OBJECTIVES

Subjects & Disciplines

Biology

- Conservation

Storytelling

Learning Objectives

Students will:

- List characteristics of strong and weak presentations.
- Plan a presentation based on their grant proposal detailing their solution for supporting their target species.

Teaching Approach

- Project-based learning

Teaching Methods

- Cooperative learning
- Role playing
- Writing

Skills Summary

This activity targets the following skills:

- 21st Century Themes
 - Environmental Literacy
 - Global Awareness
- Critical Thinking Skills
 - Analyzing
 - Applying
 - Creating
 - Evaluating
 - Remembering
 - Understanding
- Science and Engineering Practices
 - Constructing explanations (for science) and designing solutions (for engineering)
 - Engaging in argument from evidence
 - Obtaining, evaluating, and communicating information

National Standards, Principles, and Practices

COMMON CORE STATE STANDARDS FOR ENGLISH LANGUAGE ARTS & LITERACY

- **CCSS.ELA-LITERACY.SL.7.4:**

Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation.

- **CCSS.ELA-LITERACY.SL.7.5:**

Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points.

- **CCSS.ELA-LITERACY.SL.7.6:**

Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate. (See grade 7 Language standards 1 and 3 here for specific expectations.)

- **CCSS.ELA-LITERACY.W.7.1:**

Write arguments to support claims with clear reasons and relevant evidence.

NEXT GENERATION SCIENCE STANDARDS

- **Crosscutting Concept 2:**

Cause and Effect

- **ETS1.B: Developing Possible Solutions:**

There are systematic processes for evaluating solutions with respect to how well they meet the criteria and constraints of a problem.

- **MS. Interdependent Relationships in Ecosystems:**

MS-LS2-5. Evaluate competing design solutions for maintaining biodiversity and ecosystem services.

- **Science and Engineering Practice 7:**

Engaging in argument from evidence

- **Science and Engineering Practice 8:**

Obtaining, evaluating, and communicating information

Preparation

BACKGROUND & VOCABULARY

Background Information

Communicating effectively is an essential skill in successful conservation efforts. Using visuals, telling a clear story, making eye contact, and speaking clearly are just a few of the skills experts practice when preparing to deliver their pitches to funders.

Prior Knowledge

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Recommended Prior Activities

- [Bouncing Back from Extinction](#)
- [Challenges Faced by Endangered Species](#)
- [Ecosystems Help Everyone—Even Humans!](#)
- [Helping the Sumatran Rhino](#)
- [No Species Lives in Isolation](#)
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- [The Power of Story](#)

- [The Roots of Extinction](#)
- [Wish? Grant It.](#)

Vocabulary

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extinction	noun	process of complete disappearance of a species from Earth.
grant	noun	money given to a person or group of people to carry out a specific project or program.
grant writing	noun	process of applying to a person, business, or other organization for money or other funding.
pitch	verb	present an idea or information in such a way as to gain support from one's audience, usually in the form of a short speech or presentation, which is referred to by the same word (<i>pitch</i> , noun).

ACTIVITY 3: SHARING AND EVALUATING SOLUTIONS | 50 MINS

DIRECTIONS

This activity is part of the [Extinction Stinks!](#) unit.

1. Introduce presentations, collect grant proposals, and provide context to audience members.

- Welcome students and audience members to presentation day!
- Create an order for presentations so students know when they will be delivering their pitches.
- Collect students' final grant proposals before presentations begin, if you have not done so already.
- Inform students that while other groups are presenting, they will need to listen attentively to assess one another's work. Students and other audience members should fill out the [Audience Feedback Form](#) to provide feedback to each group.

2. Students deliver final pitches and take any audience questions.

- Direct students to deliver their final pitches to the audience.
- At the end of each presentation, allow time for audience members to ask questions.
- If you have guest audience members, this is also a great time for them to deliver feedback in a timely manner in a way that is both positive and constructive.

3. The class debriefs the project and students complete a personal reflection.

- After the last presentation, distribute the [Extinction Stinks! Final Reflection Form](#) to students. Have them complete them individually.
- At a later date, share some of the major takeaways from students' reflections on the unit's overall structure and ask if students have other feedback about the project experience. This allows for feedback to be anonymous and for students to build on each other's responses as a group.

Tip

Step 2: Having a fun routine to start and end student presentations can help them stay on track and cue students to attend to the students speaking. Try having students say a beginning chant like "Lights, Camera, Action!" in chorus to indicate that the next presentation is starting, and end each presentation with audience applause to show appreciation and indicate that it is complete.

Rubric

Use students' presentations and grant proposals to evaluate their understanding of the major concepts of the unit. Evaluate student work using the [Project and Pitch Rubric](#) introduced in the [Helping the Sumatran Rhino](#) activity. In addition, audience feedback forms and student evaluations could further inform your final assessment of students' learning.

Extending the Learning

Use the momentum from this project to continue with classroom action. Students can research local endangered species or continue to work with their target species and organize an event to raise awareness about threats to its survival. Students could also write letters to legislators in an area where their species is affected, organize a fundraising event, or create art that tells the story of their target organism.

OBJECTIVES

Subjects & Disciplines

Biology

- Ecology
- Conservation

Learning Objectives

Students will:

- Deliver a short presentation outlining their solution to protecting their target species.
- Listen and evaluate other students' presentations for quality of content and efficacy of planned solutions.
- Reflect on their learning during the Extinction Stinks! unit.

Teaching Approach

- Project-based learning

Teaching Methods

Skills Summary

This activity targets the following skills:

- 21st Century Themes
 - Environmental Literacy
 - Global Awareness
- Critical Thinking Skills
 - Analyzing
 - Creating
 - Evaluating
 - Remembering
- Science and Engineering Practices
 - Engaging in argument from evidence

- Obtaining, evaluating, and communicating information

National Standards, Principles, and Practices

COMMON CORE STATE STANDARDS FOR ENGLISH LANGUAGE ARTS & LITERACY

- **CCSS.ELA-LITERACY.SL.7.1.A:**

Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion.

- **CCSS.ELA-LITERACY.SL.7.4:**

Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation.

- **CCSS.ELA-LITERACY.SL.7.5:**

Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points.

- **CCSS.ELA-LITERACY.SL.7.6:**

Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate. (See grade 7 Language standards 1 and 3 here for specific expectations.)

NEXT GENERATION SCIENCE STANDARDS

- **Crosscutting Concept 2:**

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- **MS. Interdependent Relationships in Ecosystems:**

MS-LS2-5. Evaluate competing design solutions for maintaining biodiversity and ecosystem services.

- **Science and Engineering Practice 7:**

Engaging in argument from evidence

Preparation

BACKGROUND & VOCABULARY

Background Information

Presentation day can be an exciting time for a long-term project. Having an audience that includes at least a few outside adults can be one way to engage students' desires to perform well and help highlight the importance of their hard work. Consider bringing in outside experts or other teachers/adults on presentation day to increase students' investment in preparing their final pitches.

Prior Knowledge

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Recommended Prior Activities

- [Bouncing Back from Extinction](#)
- [Challenges Faced by Endangered Species](#)
- [Ecosystems Help Everyone—Even Humans!](#)
- [Helping the Sumatran Rhino](#)
- [No Species Lives in Isolation](#)
- [Present Like a Pro](#)
- [SOS—Saving Our Species](#)
- [The Power of Story](#)
- [The Roots of Extinction](#)
- [Wish? Grant It.](#)

Vocabulary

Term **Part of Speech** **Definition**



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