Save The Elephants

Teacher's Guide

Rock by Rock projects are a great way to incorporate empowering, interdisciplinary projects into your academic program. Each project includes character growth, reading, writing, science, social studies, and the arts.

At Rock by Rock, we believe that children learn best when they are having fun and are deeply engaged in rigorous, hands-on learning that has real-world application. We also believe that habits and character education are a core part of instruction. By infusing habits with academics, we can better prepare children to thrive in our ever-changing world and to help make the world a better place.

The STEAM Changemaker Series is ideal for students in 3rd-5th grade.

Classroom Application and Module Structure:

Each project in the STEAM Changemaker Series can be done together as a class, in small groups or individually as a self-directed project. Each project centers around one mission that is focused on how we can take small actions to address environmental or social challenges.

Each Project has a real-world mission that empowers students to take action. Each project follows an inquiry arc:

1. **Invest:** Invest students in the Mission / Project.
2. **Reflect**: Reflect on the life habit focus: Learner, Creativity, Curiosity, Empathy, Courage, Kinship, Impact Awareness.
3. **Explore**: Understand the problem and real-world needs through reading, video and activities that enable students to connect personally to the issue or problem through writing and art.
4. **Take Action:** Engage in a take action project that involves taking action through writing, art and making (crafts, performance, etc.).
5. **Share**: Enlist others to work towards or rally around a cause.
6. **Reflect**: Reflect on what students learned about themselves as leaders and how they grew in their life habits.

At Rock by Rock, we believe in creating flexible tools teachers can adapt based on student needs. Each project is a teacher-designed, interdisciplinary unit that can be flexibly customized. Teachers can follow our recommended lesson flow, or tailor activities to cater to specific student needs.

Use Case	Integrated as part of ELA instructional time.	Specific Science or Social Studies Learning Time	Self-Directed Learning
Grouping	**Whole Class, Small Group or Individual**		**Individual**
Purpose	• **Authentic Application-** Reading is a means to learning - I want kids to see real world applications of reading. • **21st century literacies** - I need my kids to be developing reading and writing skills in modern-day multimedia formats (i.e., podcast, videos, dramatic play etc.…). • **Word and world Knowledge** - My kids need to continue to develop their vocabulary and word and world knowledge to aid in literacy development.	• **Hands-on Learning:** I want students to use multiple modes of learning from literacy to hands-on experiments to the arts. • **Real-world Relevance:** My kids need to see how what they are learning is relevant to their lives today. • **Global Citizenship/ Science Citizenship:** I want to foster global citizens that are engaged in taking action and developing the life habits that they need.	• **Enrichment**: I want options for my more advanced students who can do projects independently to enhance learning. • **Remediation**: I want projects that allow me to work with small groups while other students work independently. • **Reluctance**: I want high engagement opportunities for learning to help reach my "harder to engage," students.
Time Period	Used during a language art or interdisciplinary/ humanities block.	Used to replace science or social studies time and/or a specific project-based learning time during the week.	Used as a learning center during traditional guided reading or small group rotations. Some kids engage independently while teachers pull groups to support as needed.
Structure	Whole Group Reading Lessons - Pre/During/Post Reading Close Reading or Read A-loud	Science and social studies Lessons	Guided reading, centers time, or self-directed learning time.

Materials and Technology:

Materials:

- **Student Mission Log:** You have the choice between a print Mission Log where students can write and take notes by hand or a digital mission log you can share with students as a PDF or PPT file.

- **Project Materials:** We also provide a materials list that outlines all the materials needed to complete the lessons with-in the project and the final take action project. These materials are suggestions, in many cases, you can adapt activities to use materials you already have available. Please see our separate materials list with a more detailed breakdown to assist in materials organization.

Materials List:	
- Cardboard - Colored pencils/ markers - Index cards - Large plastic cup/ bowl - Rubber band - Plastic wrap - Salt - Phone - Yarn - Metal fork - Metal spoon - Stamp - Envelopes - Cell phone	One of the following: - Mixed beans - Confetti - Colored paper - Elbow pasta - Split peas - Tissue paper

Technology: Projects can be completed with technology found in most educational settings.

- If doing this as a self-directed project we recommend every student have access to a laptop/computer, WIFI, Chrome browser and headphones. Our platform is currently optimized for Chrome browsers (on iOS, Android, or PCs).
- For teachers who are interested in whole group instruction we recommend additional technology such as a projector or smartboard and speakers.

Standards Alignment:

Each project is aligned to national and state standards for reading, writing, science, social studies, and the arts. Each module was designed to help students progress towards standards holistically. There is not a 1-1 correspondence between each standard and each lesson. Research shows that reading and writing standards develop holistically and more effectively when approached as a whole rather than teaching standards and skills in isolation. Our modules build NGSS aligned science content and practices, CCSS aligned reading, writing, listening, and speaking skills, and 21st Century SEL competencies. While many lessons address many clusters of standards, one standard cluster often leads over others.

This module specifically supports:

Reading CCSS	Writing CCSS	Listening and Speaking CCSS	Science NGSS	SEL 21st Century Skills/Arts
Key Ideas and Details: 1-3 Craft and Structure: 4-6 Integration of Knowledge 7-9 Text Complexity - 10	Text Types and Purposes 1 Production and Distribution of Writing 4-6 Research and Build to Present Knowledge 7-9	Comprehension and Collaboration 1,2 Presentation of Knowledge and ideas 4,6	3-LS2-1 3-LS1-1 4-PS4-1 5-ESS3-1	**Focus**: Empathy **CASEL** Social Awareness: • Taking others' perspectives • Recognizing strengths in others • Demonstrating empathy and compassion

This Project's Focus: How can we help save elephants from extinction?

Real-World Mission	**Real-World Project**	**Character Focus**
To raise money to help save Elephants from extinction.	Write a letter to Congress to advocate for approval of the Multinational Species Conservation Fund to raise money for elephant conservation.	Empathy. How can we use empathy to understand the plight of elephants and to build empathy in others to help protect elephants?

Types of Lessons within a module:

Type	**Description**	**Student Output.**
Informational Text Based Lessons	Lessons that develop informational text skills (reading, graphic organizers, charts, graphs, science concepts, social studies concepts). All lessons follow a similar flow: • **Pre-reading:** Intro/hook • **During Reading:** Interactive Questions • **Post Reading:** Application activity - many times the post activity can lead to a discussion or supplemental activity aligned with a particular class or student needs.	• Student mission log • Group discussion.
Hands-on Activities	• Experiential learning opportunities that are hands-on and require kids to go offline to learn by doing and making. • Focused on leveraging different learning modalities to engage kids and increase	• Student mission log • Activity products.

	motivation, support internalization of content and aid retention.	
Habit Focus and Reflections	• Integrated life-habit lessons that develop a 21st century skill/habit. • Each project starts and ends with a habit reflection to show growth.	• Activity products. • Student reflections
Take Action Project	• Short texts/videos/lessons that develop foundational project content (i.e., what is podcast) and project skills (i.e., how do I create effective podcasts). • Short and quick application of the skill as a guided practice before applying it to the project to ensure kids have internalized the concepts. • Creation of a take action project that leads to genuine impact. Projects use a modern-day multimedia form of communication. • An opportunity to share with an authentic audience where kids present what they have learned.	• Student mission log • Take action project • Share/ presentation

Unit Overview:

Elephants are amazing creatures. Did you know that elephants live in herds that care for each other? Did you know that elephants can communicate through the ground and send messages up to 6 miles away? Did you know that elephants can smell water 12 miles away? Did you know scientist have found herds led by blind elephants? But elephants are threatened by people. They experience habit loss, poaching and conflict with humans over land. About 96 elephants in Africa are killed every day.

In this project, kids will explore the life science and physics of elephant hearing. They'll study how elephants use groups to survive, how their life cycle impacts conservation efforts, and how elephants communicate through various types of sound waves. They'll learn the mechanics of sound waves and how those waves travel through different substances. Students will also participate in a mini-design challenge where they will work along-side an expert at the Birmingham Zoo to design a radio tracker that uses sound waves to support conservation efforts.

Students will engage in a series of experiments and art projects to help them process their learning. The project culminates in writing a persuasive or argumentative letter to Congress advocating for funding for elephant conservation.

Virtual Field Trips

Elephant Care Professional: Shay Hoffman

In this project, students meet Shay Hoffman, elephant care professional from the Birmingham Zoo. They'll learn more about elephants, what makes them special and how zoos and other conservation agencies work to help save elephants.

State Senator: Tony Vargas

In their take action project, students will meet an elected official, Tony Vargas, who will help teach students what it's like to be an elected official and some key persuasive writing strategies you can use when writing to your elected representative.

Sample Unit Goal: Save the Elephants *(Teachers may customize these to match their unique context.)*

1. Create a model that shows the benefits of living in a group or herd.
2. Compare and contrast the elephant life cycle with that of other species and explain how the elephant life cycle impacts conservation.
3. Illustrate how sound waves travel and how elephants use sound waves to communicate and support each other across long distances.
4. Explain why elephants are in danger, who is working to support elephants and how we can help.
5. Write a persuasive letter to Congress that uses empathy to compel an elected official to take action.
6. Reflect on personal use of empathy and set goals for how students can employ empathy beyond this project.

Key Vocabulary

senses	species	habitat	poach	threat
n. Five ways we learn about the world around us.	n. A group of living things that can reproduce or have babies.	n. The natural home of a plant or animal.	v. To hunt illegally.	n. A warning. Something that can harm something else.
conservation	**ecosystem**	**herd**	**savanna**	
n. Protecting something from damage.	n. All the living things in an area.	n. A group of animals living together.	n. A large, flat area covered in grass. Found in tropical areas.	

Pro Tip

Before you begin your planning, we suggest you read this teacher's guide, the student Mission Log and that you skim the online course to become familiar with the content. If you want to build your own background knowledge on elephant conservation and the physics of sound waves, you can complete the online module as a student.

At-A-Glance

The table below provides you a high-level summary of the arc of the project. Think of it as seeing the picture on the box of a puzzle. I also provides high level guidance for how you could pace-out this project. Students can either work with a partner and complete this project at their own pace or teachers can lead students through the content as a class. Our hope is that these materials provide additional opportunities for kids to explore the content, answer the driving question and apply it to the take action project at the end.

Module	Description	Activities
1: Your Mission **1-2 Days**	Students are introduced to their "Save the Elephants" mission and meet a baby elephant, Nania, that was saved from poachers.	**Online:** • Mission Intro. • Meet Nania: Rescued baby elephant. • Quick causes of elephant decline.
2: Empathy **1-2 Days**	Students learn about what it means to show empathy. They see examples of how we show empathy and try to understand each other's perspectives. Students are primed to think about how they can help others develop empathy for elephants.	**Online:** • Intro to empathy quote & intro to "head and heart." • Spotting emotions practice. • Empathize with elephant actions.
3A: All About Elephant Herds **2-4 Days**	To understand why we should protect elephants and to build empathy for elephants, students learn about two key aspects of elephants life: 1. **Species**: the three species of elephants 2. **Herds & Groups**: how elephants live in groups to help them survive and thrive **Virtual Field Trip:** Students will meet Shay Hoffman, elephant care professional at the Birmingham Zoo.	**Online:** • Introduce key vocabulary. • Discover three kinds of elephants. • Virtual Trip: Birmingham Zoo- elephant groups **Hands on:** • Write vocab sentences and create vocab illustrations. • Create an elephant group mosaic.
3B: Cycle of Life and	To understand how elephants live and communicate, students learn about the elephant life cycle and how	**Online:** • Intro to life cycles.

Communication **3-5 Days**	elephants communicate using different types of sound waves. 1. **Life Cycle**: How the elephant life cycle varies from other species and how that impacts conservation. (Elephants reproduce slowly which impacts conservation efforts.) 2. **Sound**: Students learn about sound waves, amplitude, frequency, crests, troughs, and how elephants use sounds to communicate and protect each other across long distances.	• What makes elephant life cycles special? • Elephant hearing and communication. • Sound waves and how students communicate. **Hands on:** • Cell phone challenge: sound travel through vibrations. • String challenge: hear sound travel through solid objects.
3C: What are the dangers and how can we help? **2-3 Days**	Finally, students learn about why elephants are so endangered and about the ways groups and organizations around the world are helping. Students learn that elephant conservation is expensive and requires money. **Virtual Field Trip:** To help students see 1) how conservation efforts work and 2) how money on conservation is spent, students engage in a real-world elephant conservation challenge with the Birmingham Zoo to see how the zoo used radio wave trackers to support elephant tracking and conservation.	**Online:** • Causes of elephant decline. • Who is helping and how can we help? **Hands on:** • Virtual Visit: Elephant engineering challenge (online/offline hybrid.)
4A+4B: Take Action Project: Letter to Congress **4-6 Days**	Students will write a persuasive letter to Congress to advocate for Congress to pass a bill to provide funding for elephant conservation. This persuasive letter will use evidence from the project to appeal to the "head" or the "heart" and help Congresspeople build empathy for elephants. **Virtual Field Trip:** Students will meet elected official Tony Vargas who will share tips for advocating to an elected representative.	**Online:** • Virtual Visit: Meet Senator Vargas. • Interactive letter writing practice. **Hands on:** • Write letter to Congress. • Create letter balloon art or other "stand-out" art.
4C: Share & Reflect **1 Day**	Students present their letters to Congress live to an authentic audience before they mail their letters. Students can then hang their letters in a prominent location for others to see, read them to a group or share a video of them reading their letter.	**Hands on:** • **Share:** Authentically share letter to Congress with others. • **Reflect**: Engage in personal reflection (1-1, small group, whole group) to reflect on ways to continue to show and use empathy after this project.

	Finally, students will reflect on what they've learned about being a learner and how they can extend those skills to other areas of school and life.	

Sample Lesson Flow

This project could be done in 1-2 weeks with several full days devoted to project-based learning or as many as 4-6 weeks depending on how much time each day teachers allot to the project and how much depth they choose to explore with each activity. The below lesson sequence is designed to be a flexible jumping-off point for educator planning and should be modified based on student need and educator discretion.

Category	Objective and Description	Materials Needed	Standards Alignment
Invest			
Module 1: Your Mission: Save the Elephants (1-2 Days)			
1-1 Hook	**Hook: What's the Problem?** **Objectives:** • Build investment in the Save the Elephants project. • Explain the mission of the Save the Elephant project is to write a letter to Congress to raise money for elephant conservation. • Explain that nearly 100 elephants are killed every day and that if we don't take action soon, there might not be elephants left. **Methods:** • **Intro Video**: Watch the intro to the project video to build investment about the problem. • **Interactivity Activity**:: Have students explore the major threats facing elephants. • **Letter to Congress**: Preview the letter to Congress take action project through short intro video. • **Mission Log**: Explain that students will use their Mission Log to write down important information that will help them with their	• Project module • Video	*Preparation for:* NGSS: 5-ESS3-1. Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.

	project.		
1-2	**Video: Meet Nania** **Objectives**: ● Observe the impact elephant poaching has on elephant babies when a mother is poached. ● Describe how conservationists are working to help rehabilitate babies without mothers. **Methods:** ● **Pre-watching**: Note that you are going to read (or listen) to a short story about a rescued baby-elephant and then watch a short video. ● **During-Watching**: While students are watching, ask them to think about 1) How do you think Nania felt when she lost her mother? 2) How do you think Nania feels about Salif? How do you think Salif feels about Nania? Why? ● **Post-watching**: ○ Have students write or discuss their answers to the guiding questions individually or in pairs, discuss them as a group or both.	● Project module ● Video	*Preparation for:* NGSS: 3-LS2-1. Construct an argument that some animals form groups that help members survive.
1-3	**Why Save Elephants** **Objectives**: ● Explain that human actions threaten elephants. ● Make an initial case for why we should try to protect elephants. **Methods:** ● **Interactive Quiz**: Have students engage with the interactive quiz to see how elephant populations have been impacted by people. ● **Discussion** Have students discuss two questions to get them thinking about why we should protect elephants or what they want to learn more about to know if we should fight to protect them. ○ Should we try to protect an animal that lives on another continent? Why? ○ What do you want to learn more about so you know why elephants should be protected?	● Project module ● Mission Log	*Preparation for:* NGSS: 5-ESS3-1.Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment. CCSS.ELA-LITERACY.W.4.7 Conduct short research projects that build knowledge through investigation of different aspects of a topic.

End of Preview

If you want to see the rest of the teacher's guide, sign-up for a free-trial.

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