

Lesson 4 - Part 1:

Getting to the Roots

Objective: In the first part of this lesson, students learn about **root cause analysis** in order to apply it to their chosen local environmental problem. They start to research the root causes of their chosen problem using resources from the **climate justice video library**.



Key Terms

Weed: A plant that grows in a place where humans do not want it.

Local Environmental Problem: An issue that affects the air, water, soil, or general health of a particular neighborhood, community, city, or region.

Symptoms: The signs, impacts, or results of a local environmental problem.

Root Causes: The deepest reason(s) for a problem. Identifying and addressing the root cause of a problem can make the problem less likely to return.

Root Cause Analysis Digging beneath the surface of a problem to find its deeper reasons for existing.

Five Whys: A method that continues asking ‘Why?’ many times (sometimes more than 5) in order to find the roots of a problem.

How to Properly Pull Weeds **from Your Yard**



8

10

13

15

18

22

Raise your hand to answer:

- What does it mean to “get to the roots” of something?
- What do you think would happen if a gardener pulled out the leaves of a weed, but left its roots in the soil?
- How is this video related to the local environmental problem your group chose?

Getting to the Root graphic organizer

1. Write the local environmental problem your group has chosen to focus on.

2. Describe three symptoms, or negative impacts, of the problem.

3. Use the "Five Why's" to get to the root of your problem.

The diagram is a flowchart for identifying environmental problems and their causes. At the top, three boxes labeled 'Symptom if this problem' are connected by lines to a central box labeled 'Local environmental problem'. A blue arrow labeled 'START HERE' points to the 'Local environmental problem' box. Below this box is a section titled 'WHY does this problem exist?' which contains two large empty boxes for writing answers. The entire 'WHY' section is set against a background of small dots.

Symptom if this problem

Symptom if this problem

Symptom if this problem

START HERE

Local environmental problem

WHY does this problem exist?

WHY?

Getting to the Root graphic organizer

1. Write the local environmental problem your group has chosen to focus on.

2. Describe three symptoms, or negative impacts, of the problem.

3. Use the "Five Why's" to get to the root of your problem.

The diagram illustrates a process for identifying and analyzing a local environmental problem. It features three main sections: a top section for symptoms, a middle section for the problem statement, and a bottom section for the 'Five Whys' analysis.

Top Section: Three light blue rectangular boxes are arranged horizontally. Each box is labeled "Symptom if this problem" and is decorated with small green sprigs of leaves at the top and bottom corners. These boxes are connected by a horizontal line.

Middle Section: A dashed blue rectangular box is positioned below the symptom boxes. It is labeled "Local environmental problem". A blue arrow pointing right, labeled "START HERE", is positioned to the left of this box. A vertical line connects the middle of the symptom boxes to the top center of the dashed box.

Bottom Section: A large rectangular area with a dotted blue background is located below the dashed box. It contains two large empty rectangular boxes for writing. A small blue box labeled "WHY?" is positioned between the two large boxes. A vertical line connects the bottom center of the dashed box to the top center of the first large box.

Getting to the Root graphic organizer

1. Write the local environmental problem your group has chosen to focus on.

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3. Use the "Five Why's" to get to the root of your problem.

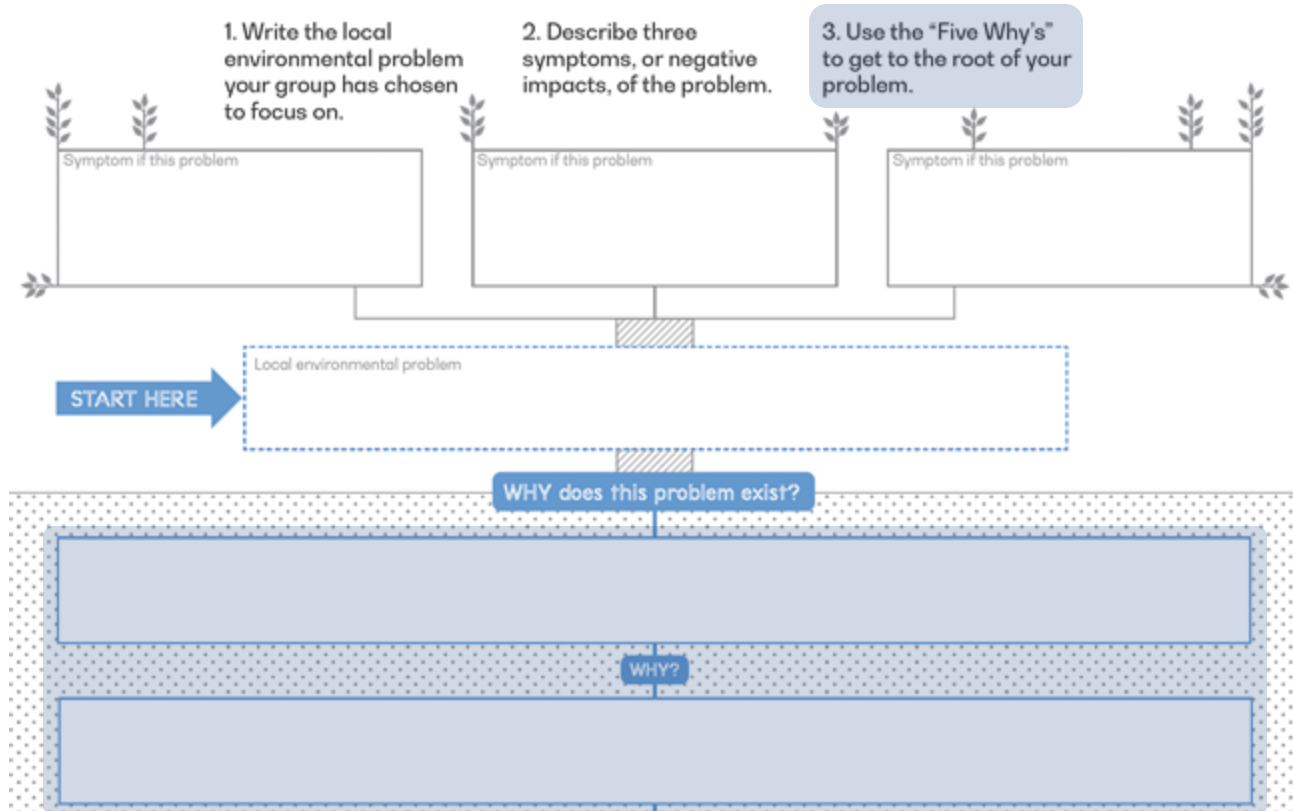


Five Whys Jefferson Memorial Example

Raise your hand to answer:

- What does the root cause of the Jefferson Memorial's stone deteriorating?
- How did the park rangers arrive at this root cause?
- What happened when the park rangers solved the root of the problem?

Getting to the Root graphic organizer



Tips for completing your Five Why's:

- Try to avoid “blaming the victims”. The people who are harmed by environmental problems are usually not the people who caused the problems in the first place.
- Ask yourself: What would environmental justice look like for your issue?
- If you don't know why, it's probably time to do some research! It's okay to leave some of your 5 why's blank for now and fill them in later.

It's time to learn more about your chosen local environmental problem! Visit **[ClimateJusticeInitiative.com/all-teachins](https://climatejusticeinitiative.com/all-teachins)** and read the descriptions of the Land Circle, Air Circle, and Trash Circle. Choose the one that best fits your chosen topic.

All Teach-Ins



Land Circle



Air Circle



Trash Circle

Then, read the descriptions of each video on that page. Choose **one** video that most closely matches your chosen topic. Watch the video and take notes on the back of your handout. Pay special attention to the **author's point of view or purpose** in the video.

Share what you've learned with the class!

Source of information	Notes (facts, information)	Author's Point of View / Purpose	Questions for further research

1

3

5

7



Lesson 4 - Part 2:

Getting to the Roots

Objective: In the second part of this lesson, students apply the **Unit Project Rubric** to two example projects in order to improve their own final projects. Then they continue to research their chosen local environmental problem.

Read the Unit Project Rubric

	Approaches Standard	Meets Standard	Exceeds Standard
Rigor	<p>The project does not explain the local environment problem, symptoms, root causes, possible solutions, or action steps using grade-appropriate vocabulary and/or images.</p> <p>The project does not contain any statistics related to the local environmental problem.</p>	<p>The project explains the local environment problem, as well as its symptoms, root causes, possible solutions, and action steps, using grade-appropriate vocabulary and/or images.</p> <p>The project contains at least one statistic related to the local environmental problem.</p>	<p>The project meets the standard for rigor, and:</p> <p>... uses appropriate evidence and reasoning to support claims about the problem, symptoms, root causes, solutions, and action steps.</p> <p>... includes appropriate visual representations (such as a graph) and an appropriate citation for each statistic.</p>

Any Questions?

Read the Unit Project Rubric

	Approaches Standard	Meets Standard	Exceeds Standard
Persuasion	The project does not convince the audience that the local environmental problem is important and concerning, or that the root causes are accurate and connected, or that the suggested actions are meaningful and effective.	The project convinces the audience that the local environmental problem is important and concerning , that the root causes are accurate and connected , and that the suggested actions are meaningful and effective .	The project meets the standard for persuasion, and : ... describes how and why the suggested actions will improve the local environment. ... makes it easy and fun for the audience to take action.

Any Questions?

Read the Unit Project Rubric

	Approaches Standard	Meets Standard	Exceeds Standard
Impact	<p>The project does not invite the audience to take action, or:</p> <p>... the actions suggested by the project are vague and not specific, or</p> <p>... the actions address the problem's symptoms, but not its root causes.</p>	<p>The project invites the audience to take at least one specific, reasonable action.</p> <p>The actions address the root causes of the problem, and not just the symptoms of the problem.</p>	<p>The project meets the standard for effectiveness, and:</p> <p>... suggests a sequence of actions, including some that are simple and some that are more complex.</p> <p>... includes a way for the audience to share the impacts of their action steps, creating positive ripple effects.</p>

Any Questions?

Use the rubric to evaluate an example.

Then, share your score and reasoning with the class.



	Approaches Standard	Meets Standard	Exceeds Standard
Rigor	<p>The project does not explain the local environment problem, symptoms, root causes, possible solutions, or action steps using grade-appropriate vocabulary and/or images.</p> <p>The project does not contain any statistics related to the local environmental problem.</p>	<p>The project explains the local environment problem, as well as its symptoms, root causes, possible solutions, and action steps, using grade-appropriate vocabulary and/or images.</p> <p>The project contains at least one statistic related to the local environmental problem.</p>	<p>The project meets the standard for rigor, and:</p> <ul style="list-style-type: none"> ... uses appropriate evidence and reasoning to support claims about the problem, symptoms, root causes, solutions, and action steps. ... includes appropriate visual representations (such as a graph) and an appropriate citation for each statistic.
Persuasion	<p>The project does not convince the audience that the local environmental problem is important and concerning, or that the root causes are accurate and connected, or that the suggested actions are meaningful and effective.</p>	<p>The project convinces the audience that the local environmental problem is important and concerning, that the root causes are accurate and connected, and that the suggested actions are meaningful and effective.</p>	<p>The project meets the standard for persuasion, and:</p> <ul style="list-style-type: none"> ... describes how and why the suggested actions will improve the local environment. ... makes it easy and fun for the audience to take action.
Impact	<p>The project does not invite the audience to take action, or:</p> <ul style="list-style-type: none"> ... the actions suggested by the project are vague and not specific, or ... the actions address the problem's symptoms, but not its root causes. 	<p>The project invites the audience to take at least one specific, reasonable action.</p> <p>The actions address the root causes of the problem, and not just the symptoms of the problem.</p>	<p>The project meets the standard for effectiveness, and:</p> <ul style="list-style-type: none"> ... suggests a sequence of actions, including some that are simple and some that are more complex. ... includes a way for the audience to share the impacts of their action steps, creating positive ripple effects.

**Use the rubric to evaluate another example.
Then, share your score and reasoning with the class.**



Air example - p. 60



Land example - p. 62

Check with your group:

- Do you understand how the rubric will be used to evaluate your unit project?
- Do you understand what your group needs to do in order to get a high score on the unit project rubric?

Group research time!

- Continue taking notes in your notes organizer.
- Make sure you are collecting information that will help your group score well on the unit project rubric. There is a checklist at the bottom of the notes organizer.
- If you need help finding reliable sources, raise your hand to ask your teacher.

Do you have all the pieces you need for a successful final project?

- | | | |
|--|--|---|
| <input type="checkbox"/> Local environmental problem | <input type="checkbox"/> Possible solutions to the problem | <input type="checkbox"/> Appropriate images |
| <input type="checkbox"/> Symptoms of the problem | <input type="checkbox"/> Action steps | <input type="checkbox"/> At least one statistic |
| <input type="checkbox"/> Root causes of the problem | <input type="checkbox"/> Appropriate vocabulary | <input type="checkbox"/> Citations |

End of Lesson 4:
Thank You!

