

SCIENCE RESEARCH SIMULATION TASK: *Ecosystems and Non-Native Species*

ASSESSMENT ITEMS

GRADES
9-12

SUPPORTING RIGOROUS SCIENCE
TEACHING AND LEARNING

STUDENT VERSION

Research Simulation Task Introduction

During this assessment, you will read three sources related to the impacts of non-native species on ecosystems.

Research Simulation Task Sources

The accompanying sources are used in this set of assessments. The print sources are included in the accompanying text packet.

- **Text 1:** “Are All Invasive Species Bad?” by Carrie Arnold, ISNS Contributor
- **Text 2:** “Earthworms: Contain Those Crawlers!” by Andy Holdsworth, Cindy Hale, and Lee Frelich
- **Text 3:** “Alien Species Reconsidered: Finding a Value in Non-Natives” by Carl Zimmer

Research Simulation Task Assessment Items

Four assessment items have been provided:

- Analytic Summary of Text 1
- Claim and Evidence in Text 2
- Central Idea in Text 3
- Analysis of Texts 1, 2, and 3

1. Analytic Summary

Please read “Are All Invasive Species Bad?” by Carrie Arnold.¹

After you read, determine one central idea from the source and write an essay that summarizes and analyzes how this central idea is developed over the course of the source, including how it emerges and is shaped and refined by particular details. Cite strong and thorough evidence from the source to support your analysis.

Write your essay in the space provided on the next pages.

You may use this area for notes ONLY. Use the lined pages to write your essay.

¹ Arnold, C. (2011). Are all invasive species bad? Retrieved from <http://www.usnews.com/science/articles/2011/08/31/are-all-invasive-species-bad>

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2. Claim and Evidence

Please read “Earthworms: Contain Those Crawlers,”² which presents a claim about the effects of non-native earthworms. After you read, complete the two-part item below.

Part A

Determine the authors’ claim developed by the evidence* in the source. Write that claim in the table on the next page.

Part B

Select three pieces of evidence from the source that support/develop the authors’ claim that you determined in Part A. Write the evidence in the table.

* Evidence includes facts, definitions, concrete details, quotations, or other information, using accurate and credible sources as appropriate to the task and stimuli.

² Holdsworth, A., Hale, C., & Frelich, L. (2003/2012). Earthworms: Contain those crawlers! Minnesota Department of Natural Resources. Retrieved from <http://www.dnr.state.mn.us/invasives/terrestrialanimals/earthworms/index.html>

Claim (Part A)	
Evidence (Part B)	
#1	
#2	
#3	

3. Central Idea

Please read “Alien Species Reconsidered: Finding a Value in Non-Natives” by Carl Zimmer.³ After you’ve finished reading, answer the two-part question below.

Part A

Determine the author’s central idea. Write that central idea in the chart below.

Central Idea (Part A)

Part B

Which **three** pieces of evidence from “Alien Species Reconsidered: Finding a Value in Non-Natives” convey the central idea you determined in Part A?

- A. “The tale of the honeybee is a sadly familiar one: a once-thriving species is on the ropes.”
- B. “Introduced species can become dangerous invaders, wreaking havoc on their new homes. They may gobble up native species, outcompete them, or just infect them to cause new diseases.”
- C. “Much of modern conservation management is organized around keeping alien species out and killing off the ones that made it in. And yet there are no loud voices calling for the alien honeybees to be wiped out in the New World.”
- D. “‘We predict the proportion of non-native species that are viewed as benign or even desirable will slowly increase over time,’ they write.”
- E. “. . . they’re not calling for every introduced species to be protected, or even tolerated. Instead, they hope the conservation community will at least consider the possibility that introduced species can do some good.”
- F. “Thomas Gavin . . . sharply disagrees . . . with the idea of analyzing introductions of species ‘as if the system were simply a collection of interchangeable parts, like some human-devised machine.’”
- G. “‘This bird is the main disperser of many non-native plants into native ecosystems,’ he points out. ‘The net outcome of this species just has to be negative.’”

³ Zimmer, C. (2011, February 24). Alien species reconsidered: Finding a value in non-natives. *Yale environment 360*. Retrieved from http://e360.yale.edu/feature/alien_species_reconsidered_finding_a_value_in_non-natives/2373/

4. Analysis

You have read three sources about non-native species.

These three sources were:

- “Are All Invasive Species Bad?” by Carrie Arnold
- “Earthworms: Contain Those Crawlers!” by Andy Holdsworth, Cindy Hale, and Lee Frelich
- “Alien Species Reconsidered: Finding a Value in Non-Natives” by Carl Zimmer

Write an essay that develops an argument in response to this scientific question: What effect do non-native (invasive) species have on the environment?

- Claim 1: Many non-native species are harmless—and can even be helpful—to the environment.
- Claim 2: Many non-native species are harmful—and can even be considered devastating—to the environment.

Choose one of the claims above as the focus of your essay. Support your claim with evidence from all three sources and with reasoning that builds a strong (compelling) argument that persuades your readers. Be sure to also explain why the claim you didn't choose (counterclaim) is not as well-supported by the evidence provided in the sources.

Write your essay in the space provided on the next pages.

You may use this area for notes ONLY. Use the lined pages to write your essay.

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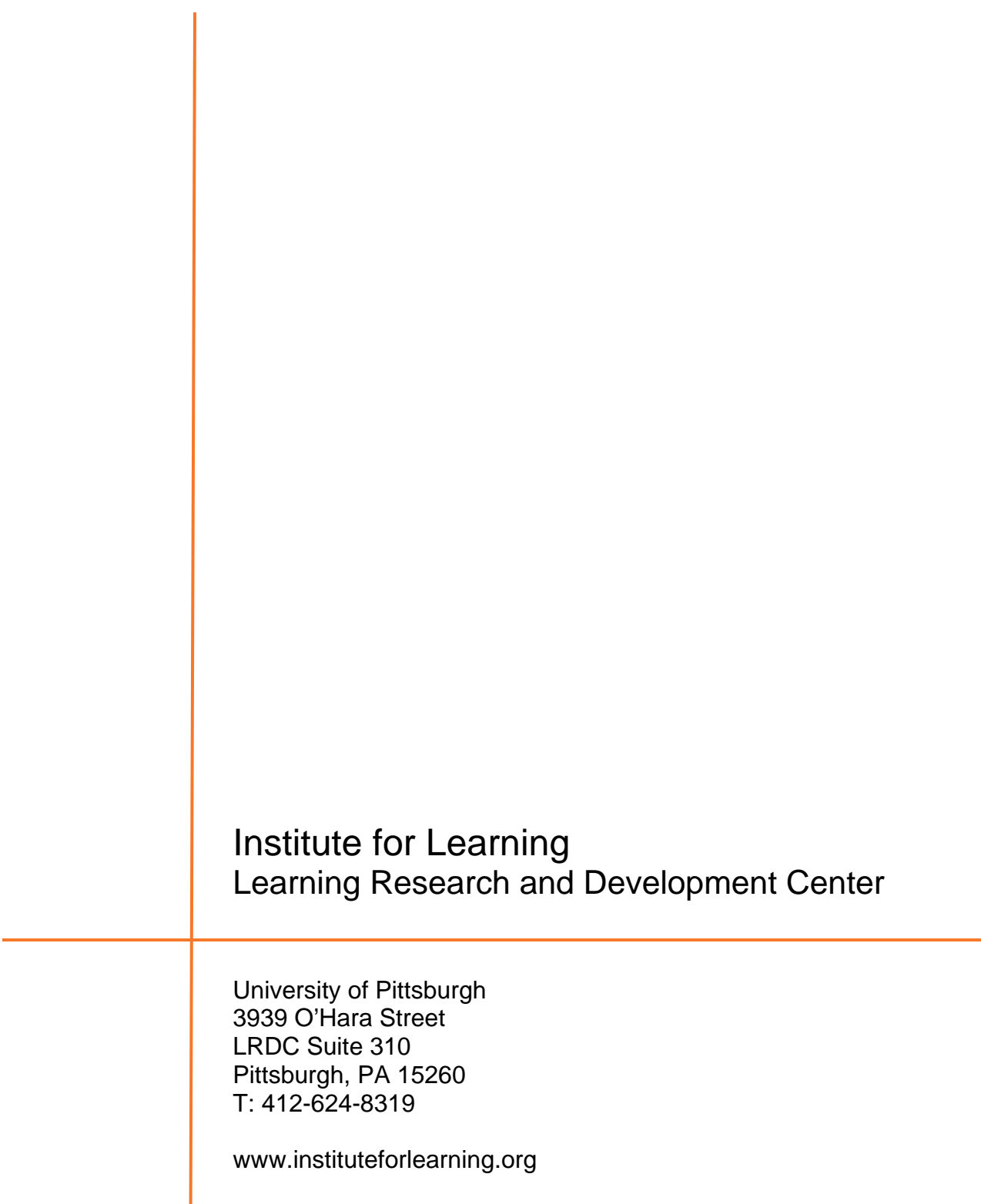
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