



Performance Task: INVASIVE PLANTS



PART 1: RESEARCH

Student Directions:

Your assignment:

A local newspaper is publishing student essays about important environmental topics. You are invited to submit an essay about invasive plants, which have become a serious problem in your area. Your essay will be based on the research you conduct.

Steps you will be following:

To plan and compose your essay, you will do all the following:

1. Watch a video, read a fact sheet and a blog entry.
2. Answer three questions about the sources.
3. Plan and write your essay.

Directions for beginning:

You will now read two sources, a fact sheet, and a blog, and watch a video about invasive plants. Take notes because you may want to refer to your notes while writing your essay. You can refer to any of the sources as often as you like.

Sources

Source 1: Video: Untamed Science, *Weeds of Mass Destruction* (3:08)

<https://www.youtube.com/watch?v=Q0Nk9EJpQWU>

Source 2: Fact Sheet on Invasive Plants

Source 3: Blog Entry – Our Great Garden Invasion



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NOTE TAKING TOOL

	Source 1 Video	Source 2 Fact Sheet	Source 3 Blog Entry
What invasive plants are			
Why people should be concerned			
Why people might not want to get rid of invasive plants			



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Source #2: Fact Sheet

INVASIVE PLANT FACT SHEET

The following information is taken from the website of the United States Department of Agriculture.

Numbers of invasive plant species:

- 1,500 species of plants known as “weeds” of foreign origin currently found in U.S.
- From 1,000 to over 22, 000 species of potentially invasive plants that have yet to be introduced into the U.S.

Characteristics of invasive plants:

- Rapid growth and short life cycle – may go from being a seed to producing seeds within three-week span
- Most are flowering plants
- Able to grow in many habitats
- Resistant to animal grazing
- Seeds are spread easily
- New plants are created by many different methods, including seeds, runners, and cuttings
- If reproducing by seed, insects, birds, bats, or other pollinators quickly spread the seeds over a wide area
- Few natural diseases to stop growth

Common consequences of invasive plant invasion:

- Risk of fire increased
- Major, costly cleanup efforts by government agencies
- Kills or damages many native plants
- Damage to pavement and buildings
- Uprooting of trees
- Damage to or destruction of nesting sites for various animal species
- Damage to crops; reduced crop production

How to control invasive plant species:

- Best control is preventing them from spreading
- Biological control with the plant’s natural enemies
- Mechanical control (removal from ground)
- Chemical control (herbicides)



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Source #3: Blog Entry

OUR GREAT GARDEN INVASION

The following passage is a blog entry written by a dedicated gardener.

Talk about poor timing. My wife and I took a one-month trip out of the U.S. just at the end of winter. We have a spacious backyard with several large flowerbeds, so we figured we would come back home to a beautiful selection of flowers and plants in full bloom, plus a few weeds, of course. Instead, we returned to find our garden overgrown with exotic species we'd never seen before and most of our best plants dead or dying. Must be weeds, we thought, though not the usual ugly and scary looking types of weeds. We even considered leaving some of our new plants in the ground, and my wife wanted to collect samples of the seeds so we could plant them in the future. Many gardeners don't seem to mind the new arrivals. But, as we soon discovered, these were not weeds at all but members of several nasty invasive plant species! After reading information about these pests, we knew that saving any seeds was out of the question.

Of course, I'd heard about invasive plants before, but I always thought that just meant something like "ugly weeds." I had never taken time to study the matter. There are many types of invasive species. They have pleasant names like Chinese Wisteria, Bush Honeysuckle, Bamboo, English Ivy, Autumn Olive, and Brazilian Pepper Tree. But what they did to our garden wasn't pleasant at all. They took over many of the spaces where our favorite plants used to be, blocked sunlight (because they covered so much of the ground), and even climbed up the sides of our back deck and major portions of our fence.

How did these non-native species invade the garden? They certainly weren't there the year before. Maybe those nice bird feeders we started leaving out this year were not such a great idea. Birds and other animals often carry the seeds of invasive species from a long way away. They drop a few seeds in the garden in late winter or early spring and the invasion begins. Also, it certainly didn't help that our neighbor buys plants at a garden center that we now know sells some invasive plants because of popular demand. These things grow fast, and with no one around to spot them or halt their growth, they can ruin a garden in no time (we're talking weeks).



Creeping Buttercup

Now I'm going to talk about the worst thing about invasive plants: removing them! The day after returning from our relaxing vacation, my wife and I spent the entire morning researching how to combat these plants, the entire afternoon at the hardware store and garden center buying the proper weapons, and all of the next day in a major battle. We tried burying the short ones, we coated others with oil, thought about setting some on fire (seemed a bit unsafe) and ended up just pulling most of them out by the roots or digging deep below ground with a shovel. By the end of the day, we had several large trash cans full of once beautiful plants.

As I've mentioned, some people actually like these invasive pests because they're unusual and beautiful. But unless your idea of beauty also involves getting bruises on your knees from digging in the ground all day and splinters from putting up a new fence, I would suggest that you learn to appreciate the many native plants that we have in this country, like buffalo grass, fir trees, and sunflowers.



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Questions

Use your remaining time to answer the questions below. Your answers to these questions will be scored. Also, they will help you think about the sources you have read and viewed, which should help you write your essay. You may click on the appropriate buttons to refer to the sources when you think it would be helpful. You may also refer to your notes. Answer the questions in the spaces provided below them.

1. **Explain what invasive plants are and why people should be concerned about them. Use details from the sources to support your answer. Cite your sources. (Claim 4, Target 2)**



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3. Analyze why some people might not want to get rid of invasive plants. Use details from the sources to support your answer. Cite your sources. *(Claim 4, Target 4)*



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PART 2: FIELD INVESTIGATION

Teachers are encouraged to engage the students in identifying invasive plants in their school yard or in a nearby area. Using circle plots or quadrants, students can calculate the percentage of invasive plants in the study plot and consider the health of the area observed. Teachers may also want to involve students in a cleanup project to remove invasive plants from an identified area.

Discussion questions might include the following:

- Why should we be concerned about invasive plants?
- Which invasive plants are a particular concern in our area?
- Is anything being done locally to remove invasive plants?
- What, if anything, is happening at the state level?
- What can individuals do to rid the environment of invasive plants?

Other ideas for field investigations:



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PART 3: ESSAY

Student Directions:

You will now have time to review your notes and sources, plan, draft, and revise your essay. You may use your notes and refer to the sources. You may also refer to the answers you wrote to questions at the end of part 1, but you cannot change those answers. Now read your assignment and the information about how your essay will be scored, then begin your work.

Your assignment:

A local newspaper is publishing student essays about important environmental topics. You are invited to submit an essay about invasive plants, which have become a serious problem in your state. Your essay should be informative and interesting to read, and it should give readers a basic introduction to the issue of invasive plants.

How your essay will be scored:

The people scoring your essay will be assigning scores for

- 1. *Statement of Purpose / Focus***– how well you clearly state and maintain your controlling idea or main idea
- 2. *Organization*** – how well the ideas progress from the introduction to the conclusion using effective transitions and how well you stay on topic throughout the essay
- 3. *Elaboration of Evidence***– how well you provide evidence from sources about your topic and elaborate with specific information
- 4. *Language and Vocabulary***– how well you effectively express ideas using precise language that is appropriate for your audience and purpose
- 5. *Conventions***– how well you follow the rules of usage, punctuation, capitalization, and spelling

Now begin work on your essay.

Manage your time carefully so that you can:

- Plan your essay
- Write your essay
- Revise and edit for a final draft



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Planning My Essay

Essay Components
Introduction: Capture the reader's attention
Statement of purpose or controlling idea:
Support #1:
Support #2:
Support #3:
Conclusion:



Scoring Notes: INVASIVE PLANTS



1. Explain what invasive plants are and why people should be concerned about them. Use details from the sources to support your answer. Cite your sources. (Claim 4, Target 2)

ANALYZE / INTEGRATE Information Rubric Claim 4, Target 2	
2	<ul style="list-style-type: none"> The response gives sufficient evidence of the ability to gather, analyze and integrate information within and among multiple sources of information.
1	<ul style="list-style-type: none"> The response gives limited evidence of the ability to gather, analyze and integrate information within and among multiple sources of information.
0	<ul style="list-style-type: none"> A response gets no credit if it provides no evidence of the ability to gather analyze and integrate information within and among multiple sources of information.

Scoring Notes:

Video: Definition: Plants from somewhere else that cause problems. Concerns: Grow fast, takes over, cause problems, strong enough to take down power lines, block light in water, taking oxygen which kills fish; swimmers can drown/ trapped; motors are harmed; rapidly reproduction.

Fact Sheet: Definition: Weeds of foreign origin. Concerns: Risk of fire; costly to clean up, kills native plants, damages structures, uproots trees, hurts nesting animals, reduces crops, most flower, can grow in different habits, seeds spread easily, spread by animals, easily reproduced, immune to diseases; short life cycle

Blog: Definition: Non-native species; distinguished from weeds Concerns: Took over spaces where favorite plants used to be; blocked sunlight; covered ground; climbed up the side of deck and major portions of the fence; takes time to remove them- fire, covered in oil, buried, dug, gives bruises and splinters; Easy to access- can be at a garden center

2 Points:

- Correctly defines invasive plants as coming from somewhere else (non-native/foreign origin)
- States the concern that these plants do damage to various types of damage
- Uses a specific example
- References more than one of the sources
- Cites the sources used

1 Point:

- Incomplete definition
- Lack of specific examples
- Uses information from only one source
- Does not reference sources



Scoring Notes: INVASIVE PLANTS



0 Points:

- Inaccurate definition
- Lacks specific details
- No reference to sources
- Off topic

Sample 2-point Response

Invasive plants are considered to be harmful weeds that are non-native to an area. People should be concerned about native plants. According to the video, invasive plants are harmful to native plants, wildlife and to people. For instance, they take away oxygen which kills fish. They can also drown swimmers. In addition, the fact sheet explains that invasive plants are harmful because they can damage structures, uproot trees, and are immune to diseases. All the sources talk about how hard it is to get rid of these plants.

Sample 1-point Responses

- Invasive plants are plants that are not native to an area and come in and cause problems. We should be concerned about them because they can cause many harmful problems such as killing native plant, damaging buildings, trees, animals, crops, water plants and get stuck in boat motors. **Sources should be referenced.**
- Invasive plants are weeds that were not grown on purpose. They can spread fast and are very difficult to get rid of. People should be concerned about them because they can overgrow buildings and kill or damage native plants. They can also reduce crop production. **Definition should include non-native or plants from other areas. Sources should be referenced.**

Sample 0-point Response

- They are plants that cause danger and stress. People should be concerned about them because they kill other plants and grow rapidly. **Definition is incorrect. No reference to the specific sources. No details to support the one accurate generalization.**
- They are very bad and can kill native plants. **Response is on topic but no development or detail. No source reference**



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2. Evaluate which source, the video, or the fact sheet, would be most helpful to the blog writer. Use details from both sources to support your answer. (Claim 4, Target 3)

EVALUATE Information/Sources Rubric Claim 4, Target 3	
2	<ul style="list-style-type: none"> The response gives sufficient evidence of the ability to evaluate the credibility, completeness, relevancy, and/or accuracy of the information and sources.
1	<ul style="list-style-type: none"> The response gives limited evidence of the ability to evaluate the credibility, completeness, relevancy, and/or accuracy of the information and sources.
0	<ul style="list-style-type: none"> A response gets no credit if it provides no evidence of the ability to evaluate the credibility, completeness, relevancy, and/or accuracy of the information and sources.

Scoring Notes:

The students should connect their reasons to the needs of the blogger. Students should give specific examples from the source selected.

Fact Sheet would be more useful: The blogger wants to solve his problem with invasive plant species and the fact sheet is more specific to the blogger’s needs.

Characteristics of invasive plants
 Common consequences of invasive plant invasion
 How to control invasive plant species
 Credibility: website of the United States Department of Agriculture

Video would be more useful: The video provides pictures that would help the blogger better understand his problems and shows the importance of removing invasive species.

- Characteristics of invasive plants
 - Common consequences of invasive plant invasion
 - Importance of removing the plants: Very dramatic with visuals!
 - Credibility: Spokesperson has a college degree, has published articles about invasive species, and has traveled over the world studying these plants



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2 Points:

- Selects either the video or the fact sheet as the most useful to the blogger
- Provides specific reasons for the choice
- Connects the reasons to the needs of the blogger
- Uses details from both sources

1 Point:

- Selects one source as better
- Provides a rationale for the source selected but lacks specific details
- Does not reference the second source in comparison

0 Points:

- Fails to identify one source as more useful in meeting the needs of the blogger
- Names a source but with no rationale or detail
- Off-topic

Sample 2-point Responses:

- The fact sheet would be the most helpful source for the blog writer. The fact sheet provides cut and dry answers so that the blogger will know the characteristic of invasive plants, common consequences, and how to control invasive plant species. Credibility is much higher; the website is from the United States Department of Agriculture. The video only shows a visual of invasive plants and why they are a problem without referencing sources.
- The video would be the most helpful source for the blog writer. The video includes facts about invasive plants just like the fact sheet but also provides a picture of these plants and how destructive they can be. The video shows how fast the plants grow and the many problems that the plants create like taking oxygen from the water and killing the fish. The video will motivate the blogger to get rid of his invasive plants and not to plant any more.

Sample 1-point Responses:

- The fact sheet would be more useful to the blogger because it tells you more facts including how to control the plants and the characteristics of the plants. For example, the fact sheet lists four specific ways to control these plants and the blogger can use this information. **No reference to the video**
- The video would be the most helpful to the blog writer because the video tells which species are invasive like Kudzu and water hyacinth, and ways to get rid of them like uprooting them. **No reference to the fact sheet**

Sample 0-point Responses:

- The fact sheet is more useful because it has a lot more facts than the video. Too general.
- The video is more useful because it gives examples to the viewer. Too general and no reference to the fact sheet.



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3. Analyze why some people might not want to get rid of invasive plants. Use details from the sources to support your answer. Cite your sources. (Claim 4, Target 4)

USE EVIDENCE Rubric

Claim 4, Target 4

2	1. The response gives sufficient evidence of the ability to cite evidence to support arguments and/or ideas.
1	2. The response gives limited evidence of the ability to cite evidence to support arguments and/or ideas.
0	3. A response gets no credit if it provides no evidence no evidence of the ability to cite evidence to support arguments and/or ideas.

Scoring Notes:

Video: These plants grow very fast and often have pretty flowers.

Fact Sheet: Grow fast, able to grow in many habitats, have few natural diseases, are flowering, resistant to animal grazing

Blog Entry: Fast growing, unusual and beautiful

2 Points:

- States a reason for why people might not want to get rid of invasive plants
- Provides evidence for the reason from at least two of the sources
- Uses details to support the reason provided
- Cites the sources used

1 Point:

- States a text-based reason
- References only one or none of the sources
- Provides little or no details from the source(s)

0 Points:

- Vague response
- Off topic



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Sample 2-point Response

Some people might like to keep invasive plants because they are “unusual and beautiful” like the blogger says. Also, these plants grow very rapidly like we see in the video. The plants can provide ground cover that looks attractive. The fact sheet also states that the plants are resistant to diseases and animal grazing. For all these reasons, some people might not want to get rid of their invasive plants.

Sample 1-point Responses

- The reason some people might not want to get rid of these plants is because they are pretty and they want their garden to look nice. **No reference to specific sources**
- Some people think that the plants are beautiful and they like how big the plants get. These people don’t understand how they are ruining the ecosystem. **No reference to specific sources**

Sample 0-point Response

These plants have flowers. **Too vague; no reference to specific sources**

Informative / Explanatory Writing Rubric (Grades 6-11)

Scoring Version



Score	4	3	2	1
Statement of Purpose/Focus	<p>The response is fully sustained and consistently and purposefully focused:</p> <ul style="list-style-type: none"> consistent or main idea of a topic is clearly communicated, and the focus is strongly maintained for the purpose, audience, and task 	<p>The response is adequately sustained and generally focused:</p> <ul style="list-style-type: none"> controlling or main idea of the topic is clear, and the focus is mostly maintained for the purpose, audience, and task 	<p>The response is somewhat sustained and may have a minor drift in focus:</p> <ul style="list-style-type: none"> controlling or main idea of a topic may be somewhat unclear, and the focus may be insufficiently sustained for the purpose, audience, and task 	<p>The response may be related to the topic but may provide little or no focus:</p> <ul style="list-style-type: none"> controlling or main idea of the topic may be somewhat confusing or ambiguous; response may be too brief or the focus may drift from the purpose, audience, and task
Organization	<p>The response has a clear and effective organizational structure creating unity and completeness:</p> <ul style="list-style-type: none"> consistent use of a variety of transitional strategies to clarify the relationships between and among ideas effective introduction and conclusion logical progression of ideas from beginning to end; strong connections between and among ideas, with some syntactic variety 	<p>The response has an evident organizational structure and a sense of completeness, though there may be minor flaws and some ideas may be loosely connected:</p> <ul style="list-style-type: none"> adequate use of transitional strategies with some variety to clarify the relationships between and among ideas adequate introduction and conclusion adequate progression of ideas from beginning to end; adequate connections between and among ideas 	<p>The response has an inconsistent organizational structure, and flaws are evident:</p> <ul style="list-style-type: none"> inconsistent use of transitional strategies with little variety introduction and conclusion, if present, may be weak uneven progression of ideas from beginning to end; and/or formulaic; inconsistent or unclear connections between and among ideas 	<p>The response has little or no discernible organizational structure:</p> <ul style="list-style-type: none"> few or no transitional strategies are evident introduction and conclusion, if present, may be missing frequent extraneous ideas may be evident; ideas may be randomly ordered or have an unclear progression
Elaboration of Evidence	<p>The response provides thorough and convincing support/evidence for the controlling idea and supporting idea(s) that includes the effective use of sources, facts, and details.</p> <ul style="list-style-type: none"> comprehensive evidence from sources is integrated; references are relevant and specific effective use of a variety of elaborative techniques* 	<p>The response provides adequate support/evidence for the controlling idea and supporting idea(s) that includes the use of sources, facts, and details:</p> <ul style="list-style-type: none"> adequate evidence from sources is integrated; some references may be general adequate use of some elaborative techniques* 	<p>The response provides uneven, cursory support/evidence for the controlling idea and supporting idea(s) that includes uneven or limited use of sources, facts, and details:</p> <ul style="list-style-type: none"> some evidence from sources is weakly integrated, imprecise, or repetitive; references may be vague weak or uneven use of elaborative techniques*; development may consist primarily of source summary 	<p>The response provides minimal support/evidence for the controlling idea and supporting idea(s) that includes little or no use of sources, facts, and details:</p> <ul style="list-style-type: none"> evidence from the source material is minimal or irrelevant; references may be absent or incorrectly used minimal, if any, use of elaborative techniques*
Language	<p>The response clearly and effectively elaborates ideas, using precise language:</p> <ul style="list-style-type: none"> vocabulary is clearly appropriate for the audience and purpose effective, appropriate style enhances content 	<p>The response adequately elaborates ideas, employing a mix of precise with more general language:</p> <ul style="list-style-type: none"> vocabulary is generally appropriate for the audience and purpose generally appropriate style is evident 	<p>The response elaborates ideas unevenly, using simplistic language:</p> <ul style="list-style-type: none"> vocabulary is uneven or somewhat ineffective for the audience and purpose inconsistent or weak attempt to create appropriate style 	<p>The response is vague, lacks clarity, or is confusing:</p> <ul style="list-style-type: none"> vocabulary is limited or ineffective for the audience and purpose little or no evidence of appropriate style

Score	2	1	0
Conventions	<p>The response demonstrates a command of conventions:</p> <ul style="list-style-type: none"> adequate use of correct sentence formation, punctuation, capitalization, grammar usage, and spelling 	<p>The response demonstrates partial command of conventions:</p> <ul style="list-style-type: none"> limited use of correct sentence formation, punctuation, capitalization, grammar usage, and spelling 	<p>The response demonstrates little or no command of conventions:</p> <ul style="list-style-type: none"> infrequent use of correct sentence formation, punctuation, capitalization, grammar usage, and spelling

NS	Unintelligible, in a language other than English, off-topic, insufficient evidence (incomplete) or copied text. (Off-purpose writing will still receive a score in Conventions.)
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*Elaborative techniques may include the use of personal experiences that support the controlling idea.