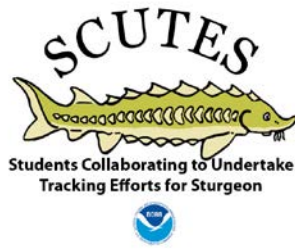


Topic/Lesson:	Atlantic Sturgeon: The Endangered Species Act Mock Public Hearing
Subject:	Evaluating arguments, weighing evidence, and writing persuasively
Author:	Kate Sundquist
Time Duration:	5 Days
Overview:	<p>To build on the ability to read different perspectives of the same issue, evaluate arguments, and write strong arguments. Students should recognize and utilize the components of a strong argument.</p> <p>In this lesson, students will learn about the process through which species gain protection under the Endangered Species Act (ESA). They will learn a brief history of the ESA, and then will research different sides of the issues that could arise when considering whether or not Atlantic sturgeon should be protected under the ESA. Students will present their findings to the class during a mock public hearing. After the hearing, each student will write a persuasive essay stating his or her own opinion of whether or not Atlantic sturgeon should be protected under the ESA.</p>
Objectives:	<p>Students will be able to:</p> <ul style="list-style-type: none"> • Analyze how emphasizing different evidence shapes the presentation of information • Evaluate argument, assess whether reasoning is sound and evidence is relevant and sufficient • Write arguments to introduce claims, acknowledge opposing claims, and support claims with logical reasoning and supporting evidence.
Background Knowledge:	<ul style="list-style-type: none"> • Students should understand perspective. The same story or information may be presented in different ways depending on the narrator. We must always consider who the narrator is and what the narrator wants when we read critically. • Students should be able to compare and contrast multiple accounts of the same event and describe key differences in focus, the information provided, and point of view. • Students should understand that persuasive writing includes an argument and supporting evidence. Students should be able to explain how an author uses reasons and evidence to support a claim, and use a logical structure to state and support their own opinions.

<p>Materials:</p>	<ul style="list-style-type: none"> • Sturgeon Information Packet (“Historical & Current Spawning Grounds” PowerPoint presentation located in the Sturgeon Information section of the binder and in the Sturgeon Information folder on the cd) with accompanying worksheet • ESA Background Info and Assignment Sheet • Mock Public Hearing Research Packet with accompanying graphic organizer • Mock Public Hearing note-taking organizer • Persuasive Essay Assignment and accompanying writing tips with rubric
<p>Vocabulary:</p>	<p>Endangered Species - species that are likely to become extinct throughout all or a large portion of their range.</p> <p>Threatened Species - species that are likely to become endangered in the near future.</p> <p>Critical habitat - a habitat that is vital to the survival of endangered or threatened species.</p>
<p>Procedures:</p>	<p>Day One</p> <p>Students read the ESA background information and assignment hand out. The teacher may choose to read this aloud, have students read individually at their desks, or ask for volunteers to read. Once students understand the background information and assignment, they will form partners.</p> <p>With a partner, students will read an information packet about Atlantic sturgeon and fill out a preliminary public hearing graphic organizer designed to focus their thinking on the multiple perspectives that might exist in regards to protection of Atlantic sturgeon under the ESA.</p> <p>The class will regroup once all partners have finished filling out their graphic organizer. Students should share their ideas and the teacher should record a class-generated list of the groups of people who might be concerned with the protection of Atlantic sturgeon.</p> <p>Day One Homework</p> <p>Students brainstorm 3 major groups of people who might testify at a public hearing regarding the protection of Atlantic sturgeon under the ESA.</p> <p>Day Two and Three</p> <p>Students are assigned one of three roles for the mock public hearing – Scientist/Conservationist, Fisherman, or Industry Leader. Students work in their role groups to read a research packet and outline the likely interests of</p>

	<p>their roles in the hearing. While researching, students fill in a persuasive argument graphic organizer.</p> <p>After completing their graphic organizers, students work with their groups to write a speech stating their group’s opinion and concerns with the protection of Atlantic sturgeon under the ESA.</p> <p>Note: Another option is to have the students research all three roles. Then right before the debate, their role will be chosen at random. This will enable to students to learn about all three sides and they will have to be prepared to defend any of them.</p> <p>Day Four</p> <p>Students select a representative from each group to speak during the mock public hearing. Student representatives from each group give their speeches. Other students listen and take notes using a graphic organizer.</p> <p>After all viewpoints have been presented, the teacher guides the class in filling out the worksheet to remind them of the key points presented by each group.</p> <p>Day Five</p> <p>Students review the mock public hearing from the previous day and outline the arguments they heard. They are assigned a persuasive essay to be completed as either homework or classwork, as decided by the teacher.</p> <p>Day Five Homework</p> <p>Students write a persuasive essay outlining their own opinions about the protection of Atlantic sturgeon under the ESA. The teacher may choose to break this up into various writing workshops over the course of several weeks, or may choose to have this be an independent homework assignment over the course of several days.</p>
<p>Conclusions:</p>	<p>Students present their persuasive essays by either reading or summarizing them. The teacher might choose to allow students to include a visual element, such as an informational poster or bumper sticker designed to support their opinions.</p> <p>After students share their essays, the teacher should present the official ESA finding, available here for the Greater Atlantic Region:</p> <p>https://www.federalregister.gov/articles/2012/02/06/2012-1946/endangered-and-threatened-wildlife-and-plants-threatened-and-endangered-status-for-distinct#h-10</p> <p>The teacher might choose to present a summary of this finding, to present</p>

	<p>only key pieces of the finding, or to break this finding into smaller pieces and assign each piece to a small group to read and present.</p>
<p>National Education Standards:</p>	<p>Grade 6 Writing</p> <ol style="list-style-type: none"> 1. Write arguments to support claims with clear reasons and relevant evidence. <ol style="list-style-type: none"> a. Introduce claim(s) and organize the reasons and evidence clearly. b. Support claim(s) with clear reasons and relevant evidence, using credible sources and demonstrating an understanding of the topic or text. c. Use words, phrases, and clauses to clarify the relationships among claim(s) and reasons. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from the argument presented. <p>Grade 6 Reading Informational Text</p> <ol style="list-style-type: none"> 8. Trace and evaluate the argument and specific claims in a text, distinguishing claims that are supported by reasons and evidence from claims that are not. 9. Compare and contrast one author’s presentation of events with that of another.
<p>Resources:</p>	<p>http://myfwc.com/media/1351493/atlantic-sturgeon-bsr.pdf</p> <p>http://www.nmfs.noaa.gov/pr/pdfs/statusreviews/atlanticsturgeon2007.pdf</p> <p>http://www.wwlp.com/dpps/living_green/national_green/feds-declare-atlantic-sturgeon-endangered-species_4061065</p> <p>http://www.jdsupra.com/post/documentViewer.aspx?fid=5210f06f-f3e2-4c78-b098-fe6c41de4211</p> <p>http://www.gloucestertimes.com/local/x164322438/Sturgeon-protection-is-new-threat-to-fishery</p> <p>http://masglp.olemiss.edu/Water%20Log/WL23/23.4sturgeon.htm</p> <p>http://www.examiner.com/article/could-atlantic-sturgeon-esa-listing-end-nc-inshore-trawling-and-gill-nets</p> <p>https://www.federalregister.gov/articles/2012/02/06/2012-1946/endangered-and-threatened-wildlife-and-plants-threatened-and-endangered-status-for-distinct#h-10</p> <p>http://www.nwf.org/Wildlife/Wildlife-Conservation/Understanding-Wildlife-Conservation/Endangered-Species-Act.aspx</p>



Name: _____

Date: _____

Endangered Species Act Background Info and Assignment

We have all heard about endangered species before. Maybe you have even done reports on them. As of October 2009, there were 1,361 plants and animals listed as either threatened or endangered. But what does that mean? How does a plant or animal get listed as an endangered species? Who makes that kind of decision?

The Endangered Species Act (ESA) was enacted by Congress in 1973. Under it, the US government has the responsibility to protect certain species and their habitats. The act has three major categories for protection - threatened species, endangered species, and critical habitats. The National Wildlife Foundation defines these categories as follows:

- Endangered Species - species that are likely to become extinct throughout all or a large portion of their range.
- Threatened Species - species that are likely to become endangered in the near future.
- Critical habitat - a habitat that is vital to the survival of endangered or threatened species.

So, when do particular habitats, plants, or animals officially fall under one of these categories? There are two major agencies that work to classify endangered species. The US Fish and Wildlife Service mainly oversees the protection of terrestrial and freshwater wildlife and plants, while the National Marine Fisheries Service mainly oversees the protection of marine wildlife and plants, with both agencies sharing in the protection of some species. These agencies must consider scientific data to determine if a particular species qualifies for protection. They carefully assess a number of criteria and ask themselves the following questions:

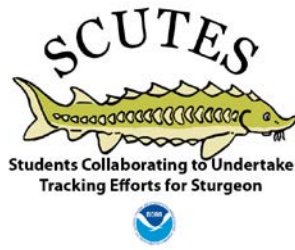
- * Has a large percentage of the species' vital habitat been degraded or destroyed?
- * Has the species been over-consumed by commercial, recreational, scientific or educational uses?
- * Is the species threatened by disease or predation?
- * Do current regulations or legislations inadequately protect the species?
- * Are there other manmade factors that threaten the long-term survival of the species?

If scientific research leads these agencies to answer yes to one or more of the above questions, then the species can be listed under the ESA. Whether or not a species is listed as endangered or threatened depends on the urgency and if there is existing protection that is adequate for that particular species.

Before a species gets listed, though, a summary of the proposed regulations must be published in the local newspaper in each community affected. When this happens, anyone can request a public hearing on the regulations.

Now that you know a little bit more about the Endangered Species Act, you are going to imagine that you are involved in a public hearing about placing a particular species on this list. In February 2012, the Atlantic sturgeon gained protection under the ESA. You are going to revisit this important decision. You will need to weigh the evidence of declining sturgeon populations, environmental factors, and the implications for affected communities in your decision. It's a huge responsibility. Where should you start?

Well, you will need to start by making sure that everyone who could be affected by this act has their voice heard. In order to do this, you'll need to learn more about Atlantic sturgeon and the threats to them and their habitat. To do this, you will read a packet of information about Atlantic sturgeon and fill out the graphic organizer that accompanies it. It will ask you to think about the ecosystems in which Atlantic sturgeon exist, and consider which groups of people might be affected if we wanted to protect the sturgeon within this ecosystem. Once you have completed your organizer, we will discuss these ideas as a class.



Name: _____

Date: _____

Preliminary Research & Graphic Organizer for ESA Mock Public Hearing on Atlantic Sturgeon

Directions: Please read the attached information packet about sturgeon. As you are reading, you should be thinking about how the population of Atlantic sturgeon has changed since the 1800s, and why it has changed. Answer the questions as you read.

1. Where do Atlantic sturgeon spend most of their time?

2. Where do Atlantic sturgeon go to spawn?

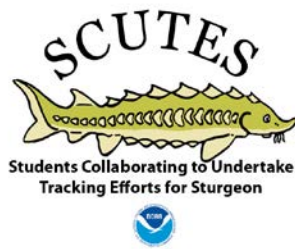
3. What characteristics help to make sturgeon a unique species?

4. What does it mean to be a *benthic feeder* and what adaptations help sturgeon to be efficient benthic feeders?

5. **Directions:** On this page, you will continue to think about your reading and pay special attention to the factors that have adversely affected the population of Atlantic sturgeon. As you consider each factor, you will also consider the groups of people who would be affected if we changed or eliminated this factor. The first one has been done for you.

Factors that have impacted the population of Atlantic sturgeon	Groups of people who might be impacted if we acted to protect Atlantic sturgeon by addressing or eliminating this factor (i.e. Limited access to fishing grounds, fishing restrictions, etc.)
<i>Commercial fishing of sturgeon for roe, oil, and gelatin.</i>	<i>Commercial fishermen, consumers of these products.</i>

6. Of the above factors that have impacted the population of Atlantic sturgeon, one has already been curtailed. Which factor has been addressed and what was done to ensure that it would not continue to impact the population of Atlantic sturgeon?



Name: _____

Date: _____

**Preliminary Research & Graphic Organizer for ESA Mock Public Hearing on Atlantic Sturgeon:
Teacher Answer Key**

Directions: Please read the attached information packet about sturgeon. As you are reading, you should be thinking about how the population of Atlantic sturgeon has changed since the 1800s, and why it has changed. Answer the questions as you read.

1. Where do Atlantic sturgeon spend most of their time?

Atlantic sturgeon spend most of their time in coastal ocean waters.

2. Where do Atlantic sturgeon go to spawn?

Atlantic sturgeon migrate and travel through estuaries to rivers and fresh water to spawn. They use natal homing to return to the same rivers where they hatched.

3. What characteristics help to make sturgeon a unique species?

Sturgeon are the most primitive of all bony fishes and date back 120 million years. They have five rows of bony scutes along their bodies to protect them like armor. Atlantic sturgeon are slow growing and late maturing but can be over 14 feet long and weigh up to 800 lbs!

4. What does it mean to be a *benthic feeder* and what adaptations help sturgeon to be efficient benthic feeders?

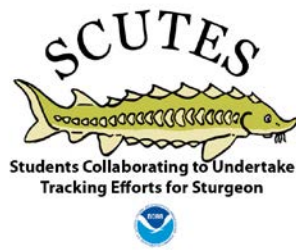
Benthic feeders feed on creatures at the bottom of estuaries, rivers, or the sea. Sturgeon are efficient benthic feeders because they have protrusible mouths located on the underside of their bodies, and they have barbels, or sensors that are used to locate food.

5. **Directions:** On this page, you will continue to think about your reading and pay special attention to the factors that have adversely affected the population of Atlantic sturgeon. As you consider each factor, you will also consider the groups of people who would be affected if we changed or eliminated this factor. The first one has been done for you.

Factors that have impacted the population of Atlantic sturgeon	Groups of people who might be impacted if we acted to protect Atlantic sturgeon by addressing or eliminating this factor (i.e. Limiting access to fishing grounds, fishing restrictions, etc.)
<i>Commercial fishing of sturgeon for roe, oil, and gelatin.</i>	<i>Commercial fishermen, consumers of these products.</i>
<i>Destruction of habitat</i>	<i>Local residents, waterfront businesses, commercial and recreational boaters</i>
<i>Pollution</i>	<i>Local residents, waterfront businesses, power plants</i>
<i>Barriers to migration</i>	<i>Dams, locks - commercial and recreational boaters, local residents Hydroelectric power plants</i>
<i>Incidental catch in commercial gill nets.</i>	<i>Commercial fishermen</i>

6. Of the above factors that have impacted the population of Atlantic sturgeon, one has already been curtailed. Which factor has been addressed and what was done to ensure that it would not continue to impact the population of Atlantic sturgeon?

Commercial fishing of sturgeon for roe, oil, and gelatin has been addressed. In 1997, a moratorium was placed on the harvest of Atlantic sturgeon, meaning that they could no longer be fished commercially.



Name: _____

Date: _____

Assigned Role: _____

Mock Public Hearing Research Packet

Here you will find a number of articles published after the ruling to protect Atlantic sturgeon under the Endangered Species Act (ESA). Some articles include scientific data. Others include arguments from fishermen or industry leaders. One article is not about Atlantic sturgeon at all, but details the efforts by an industry group in Alabama after a similar ruling to protect Alabama sturgeon. All of these articles provide perspectives into the issues that arise when a species gains protection under the ESA.

You have been assigned a role as a scientist, fisherman, or industry leader. As you read, you will take on the perspective of your assigned role, and gather information that you might use to argue for or against the protection of Atlantic sturgeon. Read carefully and fill out your assigned graphic organizer as you go. Be prepared to discuss your findings with your group.

Note to teachers:

The below articles are suggested materials for the student research packets. They provide varied perspectives on the protection of sturgeon under the ESA. You may choose to include them all in their entirety, or you may choose to include only excerpts. Some articles, particularly the National Marine Fisheries review, are lengthy.

Atlantic Sturgeon Biological Status Review Report

March 31, 2011

Florida Fish and Wildlife Conservation Commission

SOURCE:

<http://myfwc.com/media/1351493/atlantic-sturgeon-bsr.pdf>

Status Review of Atlantic Sturgeon

February 23, 2007

Atlantic Sturgeon Status Review Team, National Marine Fisheries Service

SOURCE:

<http://www.nmfs.noaa.gov/pr/pdfs/statusreviews/atlanticsturgeon2007.pdf>

Feds declare Atlantic sturgeon endangered species

February 1, 2012

ALEX DOMINGUEZ, Associated Press

SOURCE:

http://www.wvlp.com/dpps/living_green/national_green/feds-declare-atlantic-sturgeon-endangered-species_4061065

NOAA Lists Atlantic Sturgeon Under Endangered Species Act

February 01, 2012

Pierce Atwood, LLP

SOURCE:

<http://www.jdsupra.com/post/documentViewer.aspx?fid=5210f06f-f3e2-4c78-b098-fe6c41de4211>

Sturgeon protection is new threat to fishery

April 26, 2012

Richard Gaines, Gloucester Daily Times

SOURCE:

<http://www.gloucestertimes.com/local/x164322438/Sturgeon-protection-is-new-threat-to-fishery>

Industry Group Has Standing to Challenge Sturgeon Listing

Alabama-Tombigbee Rivers Coalition v. Norton, 338 F.3d 1244 (11th Cir. 2003)

Josh Clemons, M.S., J.D.

SOURCE:

<http://masglp.olemiss.edu/Water%20Log/WL23/23.4sturgeon.htm>

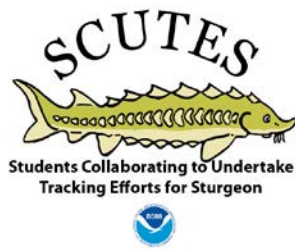
Could Atlantic sturgeon ESA listing end NC inshore trawling and gill nets?

Jeffrey Weeks

Charlotte Fish and Wildlife Policy Examiner

SOURCE:

<http://www.examiner.com/article/could-atlantic-sturgeon-esa-listing-end-nc-inshore-trawling-and-gill-nets>



Name: _____

Date: _____

Assigned Role: _____

Mock Public Hearing Research Packet: Persuasive Argument Graphic Organizer

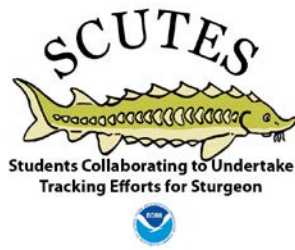
MAIN IDEA: From the perspective of your assigned role, do you think that Atlantic sturgeon should be protected under the Endangered Species Act (ESA)?

EVIDENCE: If **yes**, you will use your facts or examples to explain why Atlantic sturgeon should qualify for protection under the ESA.

If **no**, you will use your facts or examples to explain why the protection of Atlantic sturgeon under the ESA would be harmful to you or your business.

In the following graphic organizer, record three facts or examples you find in your research that support your claim. For each fact or example, write three supporting details to make a strong argument.

Fact or Example #1: <hr/> <hr/> <hr/> <hr/>	Fact or Example #2: <hr/> <hr/> <hr/> <hr/>	Fact or Example #3: <hr/> <hr/> <hr/> <hr/>
SUPPORTING DETAILS: 1. 2. 3.	SUPPORTING DETAILS: 1. 2. 3.	SUPPORTING DETAILS: 1. 2. 3.



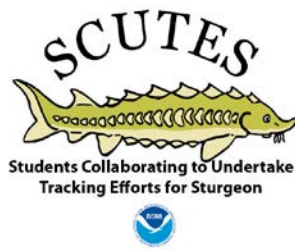
Name: _____

Date: _____

Mock Public Hearing Note Organizer

Directions: Though you have each been assigned a role to play during our mock trial, it is important that you also understand the perspective of the other major groups involved. As you listen to the testimony in today's mock trial, please fill out the graphic organizer below. These notes can be used to help you when you write your persuasive essay.

Who are they?	What do they want?	Why?
SCIENTISTS and CONSERVATIONISTS		
FISHERMEN		
INDUSTRY LEADERS		



Name: _____

Date: _____

Assigned Role: _____

ESA Mock Hearing Persuasive Essay Assignment

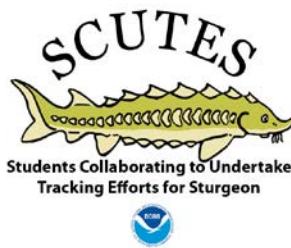
During the mock public hearing, you will hear many different perspectives of the same issue. As you listen, carefully consider

Should Atlantic sturgeon be protected under the Endangered Species Act?

You will hear scientists testify that Atlantic sturgeon populations are rapidly declining. You will hear fishermen testify that their lives depend on their ability to fish freely. You will also hear local residents explain how their day-to-day lives might be impacted if access to the sturgeon's habitat is limited. Listen carefully, take notes, and be prepared to make your own decision.

After the mock public hearing, you will be asked to decide for yourself. Your assignment is to write a five-paragraph persuasive essay that explains your point of view and convinces readers that you have made the right choice. Please use the attached "Tips for Persuasive Writing" and preview the rubric that will be used to assess your essay. Good luck!

This essay will be due on _____



Name: _____

Date: _____

Assigned Role: _____

Tips for Persuasive Essay Writing

Paragraph 1: Introduction

- Start with a hook! The first sentence should capture your reader's attention and make him or her want to read more! Your hook might be a startling situation or statistic, an intriguing question, or a powerful description. Remember, it must relate to the topic.
- Do NOT begin with: "I am going to tell you about," "This is an essay about," or "My opinion is about."
- Include a clear *thesis*, or statement of your claim. It should be a complete sentence that states your opinion and what you think should be done. Your thesis is what the rest of your paper will prove.
- Briefly mention the three reasons that will support your thesis in your body paragraphs.
- End this paragraph by restating your thesis.

Paragraph 2: A Body Paragraph

- Use strong transitional words.
- Provide *Reason #1* for why you think the way you do.
- Provide at least two supporting details for *Reason #1*.
- Acknowledge the related opposing claim and explain why it is wrong.

Paragraph 3: A Body Paragraph

- Use strong transitional words.
- Provide *Reason #2* for why you think the way you do.
- Provide at least two supporting details for *Reason #2*.
- Acknowledge the related opposing claim and explain why it is wrong.

Paragraph 4: A Body Paragraph

- Use strong transitional words.
- Provide *Reason #3* for why you think the way you do.
- Provide at least two supporting details for *Reason #3*.
- Acknowledge the related opposing claim and explain why it is wrong.

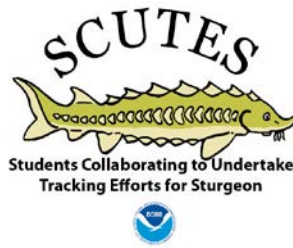
Paragraph 5: Conclusion

- Use strong transitional words.
- Restate your *thesis* from Paragraph 1.
- Provide a brief summary of the 3 reasons explained in Paragraphs 2-4.
- Try to close with a memorable sentence that will reinforce your point and leave the reader thinking!

*NOTE: Supporting details may include: facts, personal observations, expert's opinions, and statistics. Supporting details should NOT include emotional appeals or the opinion of someone who is not an expert.

Effective Transitions for Persuasive Writing

To begin with . . .
First . . .
The first reason . . .
Next . . .
In addition . . .
Besides . . .
Although . . .
Furthermore . . .
Another reason . . .
Consequently . . .
Similarly . . .
As a result . . .
For this reason . . .
For instance . . .
Therefore . . .
As a matter of fact . . .
In fact
For example . . .
Moreover . . .
However . . .
Finally . . .
To sum up . . .
It is clear that . . .
To summarize . . .
Obviously . . .
For these reasons . . .
In conclusion . . .



Name: _____

Date: _____

Persuasive Essay Rubric

	4	3	2	1
Strength of Argument	Essay shows great strength in persuasive writing strategies, including relevant evidence and credible sources. Essay maintains a formal style.	Essay shows some strength in persuasive writing strategies, including relevant evidence and credible sources. Essay maintains a formal style.	Essay does not make effective use of relevant evidence and credible sources. Essay establishes a formal style but does not maintain it.	Essay does not contain relevant evidence or credible sources. Essay does not use a formal style.
Word Choice	Each body paragraph and the conclusion contain an appropriate transitional word from our list of persuasive transitions.	Each body paragraph and the conclusion contain a transitional word from our list of persuasive transitions.	The essay contains at least two transitional words from our list of persuasive transitions.	The essay does not contain transitional words from our list of persuasive transitions.
Organization	Essay is well organized with a strong opinion stated clearly in the introductory paragraph and supporting evidence stated and explained clearly in three subsequent paragraphs. The essay concludes with a summary of its points.	Essay is organized with a strong opinion stated in the introductory paragraph and supporting evidence stated and explained in three subsequent paragraphs. The essay concludes with a summary of its points.	Essay is organized with a strong opinion stated near the beginning and supporting evidence stated subsequently. The essay concludes with a summary of its points. Essay may be missing clearly defined paragraphs.	Essay is unorganized or missing some of its key parts.
Conventions	There are no spelling or grammar errors. The essay is written neatly and formatted correctly.	There are few spelling or grammar errors. The essay is written neatly and formatted correctly.	There are some spelling or grammar errors. The essay may not be written neatly or formatted correctly.	There are many spelling and grammar errors. The essay is not written neatly or formatted correctly.