



# Smarter Balanced Assessment Consortium:

English/Language Arts Practice Test Scoring  
Guide  
Grade 4 Performance Task

5/16/2014



## **Student Directions**

### **Animals and Their Surroundings Informational Performance Task**

#### **Task:**

Your school's science fair is taking place soon. Your class has decided to focus on doing science projects about animals. You become interested in learning more about where animals live. You have found three sources about this topic in the school library.

After you have looked at these sources, you will answer some questions about them. Briefly scan the sources and the three questions that follow. Then, go back and read the sources carefully so you will have the information you will need to answer the questions and complete your research. You may click on the Global Notes button to take notes on the information you find in the sources as you read. You may also use scratch paper to take notes.

In Part 2, you will write an informational article using information you have read.

#### **Directions for Beginning:**

You will now look at several sources. You can look at any of the sources as often as you like.

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**Research Questions:**

After reviewing the research sources, use the rest of the time in Part 1 to answer three questions about them. Your answers to these questions will be scored. Also, your answers will help you think about the information you have read, which should help you write your informational article.

You may click on the Global Notes button or refer back to your scratch paper to review your notes when you think it would be helpful. Answer the questions in the spaces below the items.

Both the Global Notes on the computer and your written notes on scratch paper will be available to you in Part 1 and Part 2 of the performance task.

**Part 1****Sources for Performance Task****Source #1**

You have found an article that describes how animals survive in different environments, the places where plants and animals live.

**It's a Cold (Hot, Dry, Dark) Cruel World!**

by Dawn Baertlein

Living creatures survive in all types of environments. Each environment creates different challenges for animals that live there. Some living creatures survive at the bottom of the sea where it is dark as night and very cold. Other plants and animals live in dry, hot environments. People can use tools like flashlights or

fans to help them survive. Animals and plants, however, must rely on nature to help them survive.

Near the South Pole, in Antarctica, it is very cold. It is usually about minus 57 degrees Fahrenheit. Water freezes at 32 degrees Fahrenheit, so Antarctica is much colder than ice. Scientists live at the South Pole, but they live in buildings with thick walls and heating. What do animals do?

Some animals have bodies that help them live in the cold. The icefish lives in water so cold that even in summer, chunks of ice continue to float in the water. How do icefish keep from freezing? The only way icefish can survive in this extreme environment is because they have a special substance in their blood that keeps ice crystals from forming inside their bodies.

Penguins have thick layers of fat or blubber to help them stay warm, but sometimes even that is not enough! Often penguins must rely on each other for survival. They cuddle up together as close as they can to share their body heat.

Another area that can be hard to live in is the dry, hot desert. People who live in the desert often wear special clothes to protect them from the heat. When they build homes they have air conditioners to keep them cool and to find water they dig wells that provide water from deep in the ground. How do animals survive in the hot, dry conditions?

Many desert animals come out only at night, when it's cool. Snakes, lizards, mice, and squirrels live in

burrows. During the day, they stay under the ground and out of the sun.

In the hot Sonoran Desert of Arizona, an owl lives in a nest that sits on a tall cactus. The cactus stems store water. Rain doesn't fall often in the Sonoran Desert, but when it does, it falls quickly and heavily. Then the water quickly flows away. The cactus has roots that spread out only inches below the surface of the soil. The roots are like a big sponge, soaking up rainwater fast. Now the cactus can store water for months and the owl has a nice home high up in the cactus.



### **An owl nests on a cactus in the desert**

The ocean has very different challenges from those of the desert. The deepest parts of the ocean are very dark and cold because the sun's rays are unable to shine through all of the layers of water. Some of the very deepest parts of the ocean have thermal vents on the ocean floor that are like little volcanoes under the sea. The water coming out of the vents is very hot. Crabs survive at the bottom of the sea by scurrying around the vents looking for food.

Arctic chill, desert sun, and cold, pitch-dark ocean—these are difficult conditions that would be hard for people to survive. But nature gives plants and animals the ability to live almost anywhere.

#### Sources Used

Carey, B. (2006, June 19). Fish produces natural antifreeze to stay alive. Retrieved from [http://www.nbcnews.com/id/13426864/ns/technology\\_and\\_sciencescience/t/fish-produces-natural-antifreeze-stay-alive/](http://www.nbcnews.com/id/13426864/ns/technology_and_sciencescience/t/fish-produces-natural-antifreeze-stay-alive/)

Hill, K. (2007, September 15). What animal never drinks water in its entire life? Retrieved from <http://www.bigsiteofamazingfacts.com/what-animal-never-drinks-water-in-its-entire-life>

SeaWorld Parks and Entertainment (n.d.). Polar bears: behavior. Retrieved from <http://www.seaworld.org/animal-info/info-books/polar-bear/behavior.htm>

The Mariana Trench (n.d.). The mariana trench-biology. Retrieved from [http://www.marianatrench.com/mariana\\_trench-biology\\_001.htm](http://www.marianatrench.com/mariana_trench-biology_001.htm)

Photo of owl on cactus (Image *1598R-10034017*), copyright by SuperStock. Used by permission.

**Source #2**

You have found an article from *Appleseeds* magazine that describes how some animals build their homes.

**Animal Architects**

by Donna Henes

**Everybody Needs a Home**

Homes protect us from weather and keep us safe and comfortable. Animals are no exception.

Humans live in a wide variety of structures. Around the world, people have designed and built their homes to suit their particular needs and ways of life. Animals do the same.

In addition to making living places, people and animals both build other structures: bridges, dams, traps, and storage areas. These structures help people and animals survive.

People and animals both use different materials and methods for their constructions. They build with wood, weave with fibers and vines, dig into the earth, and mold out of mud.

From sky-high nests to elaborate [or fancy] tunnels, the amazing works of animal architects [or building designers] rival those of the greatest human engineers. Let's take a look at some.

Beavers build lodges along the banks of lakes and ponds. Using branches they chewed apart themselves, beavers begin by building a cone-shaped frame. Then they fill in the gaps with mud and leaves. The entrance

to the lodge is always at the bottom, underwater, so beavers can come and go without being seen by predators.

In addition to their lodges, beavers build dams. Water builds up behind the dams, creating flooded areas that are ideal places for beavers to find food. The flooded areas also provide pools for other wildlife.

Termites build 20-foot-high mounds out of dirt and their own saliva. These giant structures are like small apartment buildings. Besides living areas, these towers have food storage areas, nurseries for "baby" termites, a special chamber for the king and queen, and even gardens. (A chamber is like a room.) . . .



**An inside view of a termite mound**



Wombats dig huge underground burrows that can be 100 feet long. Wombat tunnels are elaborate, with many entrances, side tunnels, and resting chambers. Inside the burrow, sleeping nests are built on raised "platforms" to keep them dry in case of flooding. Often, several burrows are connected, creating structures so huge they can actually be seen from space! . . .



**A wombat coming out of its burrow**

Bald eagles build massive nests, 4 to 5 feet across and 3 to 6 feet deep, high in tall trees. They use their beaks and amazingly strong talons [or claws] to break branches and twigs for nest material. Like beavers, eagles begin by building a stick frame. Then they weave in smaller branches and twigs for added strength and protection. Finally, eagles line their nests with grasses and other soft material to make them comfy. . . .

Take a look around you. [You may] find other examples of amazing animal architecture.

#### Sources Used

Henes, D. (2009). Animal architects. *Appleseeds*, 11(7), 16-18.

Photograph of termite mound (Image 4268R-11707), copyright by Superstock. Used by permission.

Photograph of wombat in burrow (Image 1889R-38764), copyright by SuperStock. Used by permission.

**Source #3**

You have found an article that discusses plants and animals that live in the same place. The article describes how these plants and animals depend on each other to stay alive.

**Don't Step in that Ecosystem!<sup>1</sup>**

by Courtney Duke

The next time you go out, take a careful look around. Maybe you see a small pond. Plants might be growing in the pond, birds might take baths in it and, if you're lucky, the pond might even be a home to tadpoles.

Any place where plants and animals live and interact [work together] with nonliving things (like air, water, and soil) is called an ecosystem. The plants and animals in an ecosystem need each other to survive. It is important that there is a balance among all things in an ecosystem. A small change in any part of an ecosystem can have a big effect. For example, if the food that an animal eats can no longer be found, then that animal will either die or have to leave that ecosystem. When that animal is no longer a part of the ecosystem, then the rest of the living and nonliving parts of the ecosystem are affected because all parts of the ecosystem depend on each other.

All parts of an ecosystem are connected to each other. Think about an oak tree in the forest. It is a home to the bugs and birds that live in its bark and branches, and to the squirrels who make their nests in its trunk. The oak tree also provides food to other animals in the ecosystem. When its acorns are ripe, they fall to the forest floor. These rich nuts are good food for the mice and deer that eat them to fatten up for the winter.

Mice save the acorns so that they have food in the winter months, and in the spring, hawks swoop down looking for a mouse meal. In a way, the oak tree helps the hawk find its food. This is an example of how the plants and animals in an ecosystem work together in order to survive.

Now think of the ocean. Imagine diving into the deep blue water. Near the surface, you see a rocky ridge of coral called a coral reef. The reef is home to many plants and animals. For example, sea plants move back and forth in the current, and fish come to feed or to hide from other living things that can harm them. Coral reefs, in fact, are home to about one-quarter of all the fish in the sea. Reefs also attract birds, whales, turtles, and seals. The number and many different types of animals that depend upon coral reefs make them one of the most important ecosystems in the world.

There are many different kinds of ecosystems, and they can be very small like a pond or very big like a coral reef ecosystem. Ecosystems are everywhere.

<sup>1</sup>ecosystem: an area where plants, animals, and other nonliving things live and depend on each other for survival

#### Sources Used

Geography for kids. (n.d.) Ecosystems. Retrieved from: <http://www.kidsgeo.com/geography-for-kids/0164-ecosystems.php>

Salpietra, M. (2009, February 24). Population ecology. Retrieved from: <http://www.pbs.org/wgbh/nova/nature/population-ecology.html>

The Franklin Institute (n.d.). Ecosystems, biomes, and habitats. Retrieved from: <http://www.fi.edu/tfi/units/life/habitat/habitat.html>

Pala, C. (2008, September). Our imperiled oceans: victory at sea. Retrieved from: <http://www.smithsonianmag.com/science-nature/our-imperiled-oceans-victory-at-sea-7468851/?no-ist>

Item #	Grade	Claim	Target	DOK	Item Standard	Evidence Statement
1	4	4	2	3	W-9	The student will locate information from multiple text sources to support a central idea or subtopic related to research.

**2664**



Source #1 discusses what some animals do to survive in their environment. Explain how the information in Source #2 adds to the reader's understanding of what some animals do to survive in their environment. Give **two** details from Source #2 to support your explanation.

**Key Elements:**

Source #2 (Animal Architects)

- Homes protect us from weather and keep us safe and comfortable. Animals are no exception.
- The entrance to the lodge is always at the bottom, underwater, so beavers can come and go without being seen by predators.
- Water builds up behind the dams, creating flooded areas that are ideal places for beavers to find food. The flooded areas also provide pools for other wildlife.
- Besides living areas, these termite mounds have food storage areas, nurseries for “baby” termites, a special chamber for the king and queen, and even gardens.
- Inside wombat burrows, sleeping nests are built on raised “platforms” to keep them dry in case of flooding.
- Eagles line their nests with grasses and other soft material to make them comfy.

**Rubric:**

(2 points) Response is an evidence-based explanation that provides two pieces of evidence from the specified source that support this idea and that explain how each detail supports the idea.

(1 point) Response is an evidence-based explanation that provides two pieces of evidence from the specified source that support this idea but doesn't explain how

**Continued on next page**

each detail supports the idea.

OR

Response is an evidence-based explanation that provides only one piece of evidence from the specified source that supports this idea and that explains how that detail supports the idea.

(0 points) Response is an explanation that is incorrect, irrelevant, insufficient, or blank.

**Exemplar:**

(2 points) The information from Source #2 adds to the reader's understanding of what some animals do to survive in their environment by describing how some animals build their homes so that they are kept safe and comfortable. The beaver builds a dam that creates flooded areas. The beaver is then able to easily find food in these flooded areas. This is important because the way that a beaver builds its home allows it to also find food. Another example is that bald eagles line their nests with grasses and other soft materials. Eagles do this in order to make their nests more comfortable.

(1 point) The information from Source #2 adds to the reader's understanding of what some animals do to survive in their environment by describing how some animals build their homes so that they are kept safe and comfortable. The beaver builds a dam that creates flooded areas. The beaver is then able to easily find food in these flooded areas. This is important because the way that a beaver builds its home allows it to also find food.

(0 points) Different kinds of animals build different kinds of homes.

Item #	Grade	Claim	Target	DOK	Item Standard	Evidence Statement
2	4	4	3	4	W-8	The student will analyze digital and print sources in order to locate relevant information to support research.

**2665**



Which source would **most likely** be the most helpful in understanding how plants and animals work and live together to allow the place where they live to continue to grow? Explain why this source is **most likely** the most helpful. Use **two** details from the source to support your explanation.

**Key Elements:**

Source #3 (Don't Step in that Ecosystem!)

- Any place where plants, animals and other nonliving things (air, water, soil) live and interact together is an ecosystem. All living things are connected to each other in an ecosystem.
- Picture an oak tree in the forest. Bugs and birds make cozy homes in its bark and branches. Squirrels nest in its trunk.
- An oak tree grows acorns that mice and deer eat. A hawk comes down from the oak tree to eat the mouse.
- Some of the acorns will get covered in dirt, get watered from the rain, and grow another oak tree.
- A coral reef is home to many plants and animals.
- Fish come to eat or hide in sea plants.
- Coral reefs are home to one-quarter of all the fish in the sea. Reefs also attract birds, whales, turtles, and seals.
- This makes the reef ecosystem one of the most important in the world.

**Rubric:**

(2 points) Response is an evidence-based explanation that correctly identifies the most helpful source AND includes two details from that source that support this evaluation and that explain why each detail supports the idea that it is the most helpful source.

**Continued on next page**



(1 point) Response is an evidence-based explanation that correctly identifies the most helpful source AND includes one detail from that source that supports this evaluation and that explains why the detail supports the idea that it is the most helpful source.

OR

Response is an evidence-based explanation that correctly identifies the most helpful source AND includes two details from that source that support this evaluation but does not explain why each detail supports the idea that it is the most helpful source.

OR

Response is an evidence-based explanation that does not identify a source or correctly identify the most helpful source but includes two details from the correct source and that explains why each detail supports the idea that it is the most helpful source.

(0 points) Response is an explanation that is incorrect, irrelevant, insufficient, or blank.

**Exemplar:**

(2 points) Source #3 is the most helpful source in understanding how plants and animals work and live together so that the place where they live can continue to grow. This source is the most helpful because it describes how plants and animals are connected and depend on one another for survival. For example, when an oak tree grows acorns, the acorns drop to the ground. Mice and deer come to eat the acorns. The oak tree also provides the hawk with a meal. A hawk that is nearby may see a mouse that is gathering the acorns, so the hawk comes down to eat the mouse. Because of the acorns that the oak tree made, mice, deer, and hawks are able to eat.

(1 point) Source #3 is the most helpful source in understanding how plants and animals work and live together so that the place where they live can continue to grow. This source is the most helpful because it describes how plants and animals are connected and depend on the other for survival. When an acorn drops from an oak tree, mice and deer come to eat the acorn. This is important because the mice and deer have something to eat.

(0 points) Source #2 is the most helpful source because it describes how animals build their homes. The source describes how beavers build dams underwater and bald eagles build big nests, high in the trees.

Item #	Grade	Claim	Target	DOK	Item Standard	Evidence Statement
3	4	4	4	3	W-8	The student will select evidence to support opinions based on evidence collected.

## 2666



Click on the boxes to match each source with the idea or ideas that it supports. Some ideas may have more than one source selected.

	<b>Source #1: It's a Cold (Hot, Dry, Dark) Cruel World!</b>	<b>Source #2: Animal Architects</b>	<b>Source #3: Don't Step in that Ecosystem!</b>
<b>Some animals have developed special body features that help them survive in the place where they live.</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Animals and plants living together is important for their survival.</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Animals create environments where they are protected from the weather and kept safe and comfortable.</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Key Elements:

Some animals have developed special body features that help them survive in the place where they live:

- Source #1

Animals and plants living together is important for their survival:

- Source #3

Continued on next page

Animals create environments where they are protected from the weather and kept safe and comfortable:

1. Source #2

**Rubric:**

(1 point) 3 cells completed correctly

(0 points) Fewer than 3 cells completed correctly or blank

Item #	Grade	Claim	Target	DOK	Item Standard	Evidence Statement
4	4	2	4	4	W-2b	The student will write full informational texts on a topic, attending to purpose and audience; organize ideas by stating a focus (main idea); include structures and appropriate transitional strategies for coherence; include supporting evidence (from sources when appropriate to the assignment) and elaboration; and develop an appropriate conclusion related to the information or explanation presented.

**2667**



**Student Directions**

**Animals and Their Surroundings Informational Performance Task**

**Part 2**

You will now review your notes and sources, and plan, draft, revise, and edit your writing. You may use your notes and go back to the sources. Now read your assignment and the information about how your writing will be scored, then begin your work.

**Your Assignment:**

Your teacher wants each student to write an informational article that will be displayed with your science fair project. You decide to write about animals and where they live. Your article will be read by other students, teachers, and parents.

Using more than one source, develop a main idea about animals and their surroundings. Choose the most important information from more than one source to support your main idea. Then, write an informational article about your main idea that is several paragraphs long. Clearly organize your article and support your main idea with details from the sources. Use your own words except when quoting directly from the sources. Be sure to give the source title or number when using details from the sources.

**REMEMBER: A well-written informational article**

- has a clear main idea.
- is well-organized and stays on the topic.
- has an introduction and conclusion.
- uses transitions.
- uses details from the sources to support your main idea.
- puts the information from the sources in your own words, except when using direct quotations from the sources.
- gives the title or number of the source for the details or facts you included.
- develops ideas clearly.
- uses clear language.
- follows rules of writing (spelling, punctuation, and grammar).

**Now begin work on your informational article.** Manage your time carefully so that you can

1. plan your informational article.
2. write your informational article.
3. revise and edit the final draft of your informational article.

Word-processing tools and spell check are available to you.

For Part 2, you are being asked to write an informational article that is several paragraphs long. Type your response in the box below. The box will get bigger as you type.

Remember to check your notes and your pre-writing/planning as you write and then revise and edit your informational article.

**4-Point  
Informational  
Performance Task Writing Rubric (Grades 3-5)**

Score	4	3	2	1	NS
<b>Organization/Purpose</b>	<p>The response has a clear and effective organizational structure, creating a sense of unity and completeness. The organization is sustained between and within paragraphs. The response is consistently and purposefully focused:</p> <ul style="list-style-type: none"> <li>controlling/main idea of a topic is clearly communicated, and the focus is strongly maintained for the purpose and audience</li> <li>consistent use of a variety of transitional strategies to clarify the relationships between and among ideas</li> <li>effective introduction and conclusion</li> <li>logical progression of ideas from beginning to end; strong connections between and among ideas with some syntactic variety</li> </ul>	<p>The response has an evident organizational structure and a sense of completeness. Though there may be minor flaws, they do not interfere with the overall coherence. The organization is adequately sustained between and within paragraphs. The response is generally focused:</p> <ul style="list-style-type: none"> <li>controlling/main idea of a topic is clear, and the focus is mostly maintained for the purpose and audience</li> <li>adequate use of transitional strategies with some variety to clarify the relationships between and among ideas</li> <li>adequate introduction and conclusion</li> <li>adequate progression of ideas from beginning to end; adequate connections between and among ideas</li> </ul>	<p>The response has an inconsistent organizational structure. Some flaws are evident, and some ideas may be loosely connected. The organization is somewhat sustained between and within paragraphs. The response may have a minor drift in focus:</p> <ul style="list-style-type: none"> <li>controlling/main idea of a topic may be somewhat unclear, or the focus may be insufficiently sustained for the purpose and/or audience</li> <li>inconsistent use of transitional strategies and/or little variety</li> <li>introduction or conclusion, if present, may be weak</li> <li>uneven progression of ideas from beginning to end; and/or formulaic; inconsistent or unclear connections between and among ideas</li> </ul>	<p>The response has little or no discernible organizational structure. The response may be related to the topic but may provide little or no focus:</p> <ul style="list-style-type: none"> <li>controlling/main idea may be confusing or ambiguous; response may be too brief or the focus may drift from the purpose and/or audience</li> <li>few or no transitional strategies are evident</li> <li>introduction and/or conclusion may be missing</li> <li>frequent extraneous ideas may be evident; ideas may be randomly ordered or have an unclear progression</li> </ul>	<ul style="list-style-type: none"> <li>Insufficient (includes copied text)</li> <li>In a language other than English</li> <li>Off-topic</li> <li>Off-purpose</li> </ul>

**4-Point  
Informational  
Performance Task Writing Rubric (Grades 3-5)**

Score	4	3	2	1	NS
<b>Evidence/Elaboration</b>	<p><b>The response provides thorough elaboration of the support/evidence for the controlling/main idea that includes the effective use of source material. The response clearly and effectively develops ideas, using precise language:</b></p> <ul style="list-style-type: none"> <li>comprehensive evidence (facts and details) from the source material is integrated, relevant, and specific</li> <li>clear citations or attribution to source material</li> <li>effective use of a variety of elaborative techniques*</li> <li>vocabulary is clearly appropriate for the audience and purpose</li> <li>effective, appropriate style enhances content</li> </ul>	<p><b>The response provides adequate elaboration of the support/evidence for the controlling/main idea that includes the use of source material. The response adequately develops ideas, employing a mix of precise and more general language:</b></p> <ul style="list-style-type: none"> <li>adequate evidence (facts and details) from the source material is integrated and relevant, yet may be general</li> <li>adequate use of citations or attribution to source material</li> <li>adequate use of some elaborative techniques*</li> <li>vocabulary is generally appropriate for the audience and purpose</li> <li>generally appropriate style is evident</li> </ul>	<p><b>The response provides uneven, cursory elaboration of the support/evidence for the controlling/main idea that includes uneven or limited use of source material. The response develops ideas unevenly, using simplistic language:</b></p> <ul style="list-style-type: none"> <li>some evidence (facts and details) from the source material may be weakly integrated, imprecise, repetitive, vague, and/or copied</li> <li>weak use of citations or attribution to source material</li> <li>weak or uneven use of elaborative techniques*; development may consist primarily of source summary</li> <li>vocabulary use is uneven or somewhat ineffective for the audience and purpose</li> <li>inconsistent or weak attempt to create appropriate style</li> </ul>	<p><b>The response provides minimal elaboration of the support/evidence for the controlling/main idea that includes little or no use of source material. The response is vague, lacks clarity, or is confusing:</b></p> <ul style="list-style-type: none"> <li>evidence (facts and details) from the source material is minimal, irrelevant, absent, incorrectly used, or predominantly copied</li> <li>insufficient use of citations or attribution to source material</li> <li>minimal, if any, use of elaborative techniques*</li> <li>vocabulary is limited or ineffective for the audience and purpose</li> <li>little or no evidence of appropriate style</li> </ul>	<ul style="list-style-type: none"> <li>Insufficient (includes copied text)</li> <li>In a language other than English</li> <li>Off-topic</li> <li>Off-purpose</li> </ul>

\*Elaborative techniques may include the use of personal experiences that support the controlling/main idea

**2-Point  
Informational  
Performance Task Writing Rubric (Grades 3–5)**

Score	2	1	0	NS
<b>Conventions</b>	<p><b>The response demonstrates an adequate command of conventions:</b></p> <ul style="list-style-type: none"> <li>adequate use of correct sentence formation, punctuation, capitalization, grammar usage, and spelling</li> </ul>	<p><b>The response demonstrates a partial command of conventions:</b></p> <ul style="list-style-type: none"> <li>limited use of correct sentence formation, punctuation, capitalization, grammar usage, and spelling</li> </ul>	<p><b>The response demonstrates little or no command of conventions:</b></p> <ul style="list-style-type: none"> <li>infrequent use of correct sentence formation, punctuation, capitalization, grammar usage, and spelling</li> </ul>	<ul style="list-style-type: none"> <li>Insufficient (includes copied text)</li> <li>In a language other than English</li> <li>Off-topic</li> <li>Off-purpose</li> </ul>

Holistic Scoring:

- Variety:** A range of errors includes sentence formation, punctuation, capitalization, grammar usage, and spelling.
- Severity:** Basic errors are more heavily weighted than higher-level errors.
- Density:** The proportion of errors to the amount of writing done well. This includes the ratio of errors to the length of the piece.