

## Student Guide

### CWRA+ OVERVIEW

#### WHAT IS CWRA+?

College and Work Readiness Assessment (CWRA+) is a performance-based assessment that provides a measure of an institution's contribution to the development of critical-thinking and written communication skills of its students.

CWRA+ uses a Performance Task (PT) and a Selected-Response Question (SRQ) section to measure critical-thinking and written communication skills. The principal goal of CWRA+ is to assist faculty, administrators, and students in improving teaching and learning.

#### ASSESSMENT OVERVIEW

CWRA+ is administered online and is comprised of a Performance Task and a series of Selected-Response questions. The Performance Task contains an open-ended prompt that requires a written response. The Selected-Response Questions ask students to choose the best response based on the document library provided.

CWRA+ tasks are designed to assess students' critical-thinking and written communication skills. These skills include scientific and quantitative reasoning, analytic reasoning and evaluation of information, problem solving, writing effectiveness, and writing mechanics. These skills are necessary, not only for success in college and other aspects of life outside the classroom. No prior knowledge of any particular field is necessary in order to perform well.

### CWRA+ PARTICIPATION

#### WHY DO SCHOOLS USE CWRA+?

Schools participate in CWRA+ to estimate how, and by how much, they contribute to your development of higher-order skills. Collecting this information is one step in the process of improving teaching and learning.

#### WHY DO STUDENTS TAKE CWRA+?

Students who participate in CWRA+ will learn about their strengths as well as areas to improve upon. The more students that participate in the assessment, the more confidence an institution can have in its results.

#### WHY IS YOUR PARTICIPATION IMPORTANT TO YOUR SCHOOL?

An assessment program like CWRA+ requires the cooperation of many members of your institution, including administrators, faculty, and students.

Students who participate in CWRA+ contribute to the results and data that inform your institution about its students' learning. The more students who participate in the assessment, the more confidence an institution can have in its results. By attempting to do your best on CWRA+, you are also helping your school grow and improve the education it provides to you and your peers.

## PERFORMANCE TASKS

Each Performance Task assesses analysis and problem solving, writing effectiveness and writing mechanics by asking students to answer several open-ended questions about a hypothetical but realistic situation. Students have 60 minutes to complete a Performance Task.

Each Performance Task has its own Document Library that includes a range of information sources, such as letters, memos, photographs, charts, or newspaper articles.

To complete the Performance Task, students may have to weigh different types of evidence; evaluate the credibility of various documents spot possible bias; and identify questionable or critical assumptions. It is important to note that there is no single correct answer to a Performance Task.

Characteristics of a high-quality Performance Task response:

- Evaluates whether evidence is credible or unreliable
- Provides analysis and synthesis of the evidence
- Draws conclusions that follow from the provided evidence
- Is well-organized and logically developed, with each idea building upon the last
- Shows strong command of writing mechanics and vocabulary

## EXAMPLE PERFORMANCE TASK:

### SCENARIO

First, Dr. Eager said that Mayor Stone’s proposal for reducing crime by increasing the number of police officers is a bad idea. Dr. Eager said “it will only lead to more crime.” Dr. Eager supported this argument with a chart that shows that counties with a relatively large number of police officers per resident tend to have more crime than those with fewer officers per resident.

Second, Dr. Eager said “we should take the money that would have gone to hiring more police officers and spend it on the Strive drug treatment program.” Dr. Eager supported this argument by referring to a news release by the Washington Institute for Social Research that describes the effectiveness of the Strive drug treatment program. Dr. Eager also said there were other scientific studies that showed the Strive program was effective.

Third, Dr. Eager said that because of the strong correlation between drug use and crime in Jefferson, reducing the number of addicts would lower the city’s crime rate. To support this argument, Dr. Eager presented a chart that compared the percentage of drug addicts in a Jefferson ZIP Code area to the number of crimes committed in that area. Dr. Eager based this chart on crime and community data tables that were provided by the Jefferson Police Department.

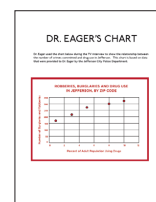
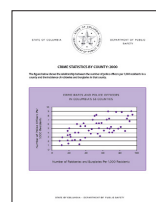
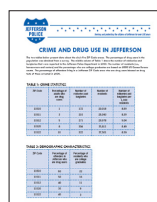
### ROLE

You are a staff member who works for an organization that provides analysis of policy claims made by political candidates and makes recommendations to endorse specific candidates. Pat Stone is running for reelection as the mayor of Jefferson, a city in the state of Columbia. Mayor Stone’s opponent in this contest is Dr. Jamie Eager. Dr. Eager is a member of the Jefferson City Council. Dr. Eager made three arguments during a recent TV interview.

### TASK

In advance of the debate later this week, your office must release a report evaluating the claims made by Dr. Eager and make a recommendation endorsing either Mr. Stone or Dr. Eager.

### DOCUMENT LIBRARY



## STUDENT INTERFACE: PERFORMANCE TASK

The screenshot displays the CWRA+ (Tutorial) interface. At the top, it shows a timer at 14 min 51 sec. The main content is divided into two sections: 'Performance Task Instructions' on the left and 'Document Library Contents' on the right. The instructions section includes three sub-sections: 'Reviewing Documents', 'Reviewing Your Task', and 'Entering Text'. The 'Document Library Contents' section features a 'Select document:' dropdown menu with options for 'Document Library Contents', 'Document 1', 'Document 2', 'Document 3', 'Document 4', and 'Document 5'. Below the dropdown, a list of 'Document 1' through 'Document 5' is visible. At the bottom of the interface, there are navigation buttons: a 'HELP' button with a question mark icon, and 'BACK' and 'NEXT' buttons with left and right arrow icons respectively.

## SELECTED-RESPONSE QUESTIONS

The Selected-Response questions are designed to evaluate targeted skill sets. You will be presented with one or two documents and a set of corresponding questions. The supporting documents include a range of information sources, such as letters, memos, photographs, charts, or newspaper articles.

The [Scientific & Quantitative Reasoning](#) section contains 10 questions that require students to use information and arguments provided in (an) accompanying document(s) to: make inferences and hypotheses based on given results; support or refute a position; identify connected and conflicting information; detect questionable assumptions (such as implications of causation based on correlation); evaluate the reliability of the information provided (such as the experimental design or data collection methodology); draw a conclusion or decide on a course of action to solve a problem; evaluate alternate conclusions; or recognize that the text leaves some matters uncertain and propose additional research to address these matters. The supporting documents in this section present and discuss real-life research results.

The [Critical Reading & Evaluation](#) section also contains 10 questions that require students to use information and arguments from (an) accompanying document(s) to: support or refute a position; identify connected and conflicting information; analyze logic; identify assumptions in arguments; make justifiable inferences; or evaluate the reliability of the information provided. The supporting documents in this section may present debates, conversations, or multiple literary or historical texts with opposing views on an authentic issue.

The [Critique an Argument](#) section contains 5 questions. Students are presented with a brief argument about an authentic issue, and must use their critical-thinking skills to critique the given argument. Some of the questions may require students to: evaluate alternate conclusions; address additional information that could strengthen or weaken the argument; detect logical flaws and questionable assumptions in the argument; and evaluate the reliability of information, including recognizing potential biases or conflicts of interest.

## SAMPLE SELECTED-RESPONSE QUESTIONS:

### SUPPORTING DOCUMENTS

#### Fueling the Future

In a quest to solve the energy problems of the twenty-first century—that is, to find sustainable and renewable sources of energy that are less destructive to the environment yet economical enough to have mass appeal—scientists throughout the world are experimenting with innovative forms of fuel production. While oil is still the most common source of fuel, there is a finite amount of it, and new alternatives will become necessary to sustain the supply of energy that we are accustomed to.

Corn-based ethanol, the most common alternative to traditional fossil fuels (primarily coal, petroleum, and natural gas), is mixed into gasoline in small quantities, and it now accounts for about 10% of the fuel supply from sources within the United States. Because corn is grown on farmland it is subject to price fluctuations based on supply and demand of the crop, as well as disruptions resulting from naturally occurring events, such as droughts and floods. At present, nearly 40% of the corn grown in the United States is now used for fuel, and the demand for corn-based ethanol is rising. To meet this demand, wetlands, grasslands, and forests are all being converted into farmland with the sole intention of growing corn for more ethanol production. Corn grown for ethanol has become a more valuable commodity for farmers than crops grown for food, and this has negatively affected consumers worldwide, as shown by the increasing price of food over time.

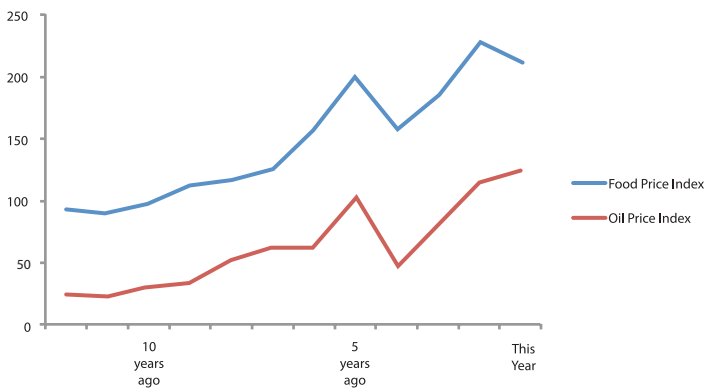


Figure 1: Food and oil price indices (based on information found at [www.fao.org](http://www.fao.org) and [www.indexmundi.com](http://www.indexmundi.com))

Another alternative that has gained attention in recent years is the harvesting of biofuel from algae. Biodiesel, a type of biofuel, is produced by extracting oil from algae, much like the process involved in creating vegetable oils from corn or soybeans. Ethanol can also be created by fermenting algae.

Algae biofuel has some unique benefits that separate it from other fossil fuel alternatives. To begin with, while all fuels create carbon dioxide when they are burned, algae have the ability to recapture and use that carbon dioxide during photosynthesis while they are growing. In this regard, the advantage is enormous. The process of growing algae actually absorbs more carbon dioxide than is released into the atmosphere when it is burned for fuel. Most manufacturing processes strive for “carbon neutrality”—or the balance between carbon emissions and depletion corresponding to a net carbon output of zero. Even better, algae-based biofuel can be described as “carbon negative.”

Other forms of biofuel can make similar claims. For example, ethanol from corn also eliminates carbon dioxide in the atmosphere through photosynthesis. Unlike corn, however, algae grow in water, usually in man-made ponds built on land not used for crops. Additionally, algae do not require fresh water. Instead algae can be grown in salt water, and in some cases even sewage water and other waste material.

The most promising aspect of algae biofuel stems from its yield. When compared to other biofuel producers, algae’s fuel yield per harvested acre is over 500 times greater than corn-based ethanol. The following chart compares commonly used biofuel crops on several important factors.

Table 1: Comparison of biofuel crops (based on information found at: [algae-fuel.org](http://algae-fuel.org) and [c1gas2org.wpengine.netdna-cdn.com](http://c1gas2org.wpengine.netdna-cdn.com))

| Product                 | Oil Yield Gallons/Acre | Harmful Gas Emissions | Use of Water to Grow Crop | Fertilizer Needed to Grow Cop | Energy Used to Extract Fuel from Crop |
|-------------------------|------------------------|-----------------------|---------------------------|-------------------------------|---------------------------------------|
| Ethanol from Corn       | 18                     | high                  | high                      | high                          | high                                  |
| Biodiesel from Soybeans | 48                     | medium                | high                      | low-medium                    | medium-low                            |
| Ethanol from Canola     | 127                    | medium                | high                      | medium                        | medium-low                            |
| Biodiesel from Algae    | 10,000                 | negative              | medium                    | low                           | high                                  |

#### Which of the following negatively affects algae biofuel's ability to be a “carbon-negative” energy source?

- A. It takes 3000 liters of water to create one liter of biofuel from algae, which is highly inefficient and wasteful of resources.
- B. The process of extracting biofuel from algae requires more energy than is generated by burning the biofuel itself.
- C. The construction of facilities needed to extract algae biofuel would initially require the use of fossil fuels for energy.
- D. Algae biofuel is about 25 years away from being commercially viable, by which point there will be more efficient alternative energy sources.

Answer: B

## STUDENT INTERFACE: SELECTED-RESPONSE QUESTIONS

Mark
**Cwra+** (Tutorial)  
1 of 3 14 min 41 sec

### Instructions

**Reviewing Documents**  
The selected-response questions will refer to the document(s) on the right side of the screen. The questions are administered in sets of 5 or 10. Each set of questions will refer to the displayed document. When navigating past one set of questions a new document will be displayed.

Some documents do not fit entirely on the right side of the screen. If the document is taller than the screen, use the scroll bar on the right side of the screen to move the document up and down.

You can also change the width of the left and right side of the screen by clicking and dragging the center gray bar that divides the screen.

**Sample Question**  
The selected-response questions will appear on the left side of the screen. These items consist of a statement or question followed by response options. Select the best answer to the question.

1. What is the color of the sky?

- A) Purple
- B) Yellow
- C) Green
- D) Blue

**Sample Document**

During your assessment, document content will appear here.

HELP
 REVIEW
 BACK
 NEXT

## NAVIGATION: SELECTED-RESPONSE QUESTIONS

The following table provides an overview of buttons and features that are available in the selected-response section. Please note that you will be able to return to previous screens at any time during testing; there are no restrictions on moving forward or backwards through the exam until you reach the warning screen.

| Button                           | Overview   |
|----------------------------------|--|
| <input type="checkbox"/><br>Mark | The "Mark" button will allow you to mark a question to review it later. Uncheck the box to remove the mark flag.   |
| <del>✓</del><br>Strike-out       | By right clicking on the text of the answer choice, a line will appear through that choice. You may strike out as many answer choices as you wish. You can undo your strike-through by right clicking on the answer choice text a second time. |
| <br>Review Incomplete            | The "Review Incomplete" button will allow you to quickly review unanswered items.  |
| <br>Review All                   | The "Review All" button will allow you to quickly review all items.  |
| <br>Review Marked                | The "Review Marked" button will allow you to quickly review marked items.  |
| <br>Mark Complete                | The "Mark Complete" button will allow you to submit your completed test and exit the testing session.  |
| <br>Next                         | The "Next" button will move you forward to the next screen.  |
| <br>Back                         | The "Back" button will move you backward to the previous screen.   |
| <br>Help                         | The "Help" button will allow you to refer to the information contained in this tutorial at any point during your assessment.   |