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AP[®]

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AP[®] English Language and Composition

Sample Student Responses and Scoring Commentary

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Free-Response Question 1

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Synthesis Essay**6 points**

Since the early 2000s, the United States government and a number of corporations have sponsored initiatives to improve education in the STEM disciplines: science, technology, engineering, and mathematics. The emphasis on STEM subjects in elementary, secondary, and higher education reflects concerns that United States students are less proficient in these areas than are students in other countries. Additionally, there is a belief that mastery in STEM fields is now essential in order to join a highly technical and specialized workforce. However, not everyone is convinced that a STEM-focused curriculum is necessary and/or effective.

Carefully read the following six sources, including the introductory information for each source. Write an essay that synthesizes material from at least three of the sources and develops your position on the value, if any, of initiatives to improve STEM education and increase the number of students interested in the STEM disciplines.

Source A (Ossola)

Source B (graph)

Source C (editors)

Source D (survey)

Source E (Fitzgerald)

Source F (May)

In your response you should do the following:

- Respond to the prompt with a thesis that presents a defensible position.
- Select and use evidence from at least three of the provided sources to support your line of reasoning. Indicate clearly the sources used through direct quotation, paraphrase, or summary. Sources may be cited as Source A, Source B, etc., or by using the description in parentheses.
- Explain how the evidence supports your line of reasoning.
- Use appropriate grammar and punctuation in communicating your argument.

Reporting Category	Scoring Criteria	
Row A Thesis (0–1 points)	0 points For any of the following: <ul style="list-style-type: none"> There is no defensible thesis. The intended thesis only restates the prompt. The intended thesis provides a summary of the issue with no apparent or coherent claim. There is a thesis, but it does not respond to the prompt. 	1 point Responds to the prompt with a thesis that presents a defensible position.
Decision Rules and Scoring Notes		
Responses that do not earn this point: <ul style="list-style-type: none"> Only restate the prompt. Do not take a position, or the position is vague or must be inferred. Equivocate or summarize others’ arguments but not the student’s (e.g., some people say it’s good, some people say it’s bad). State an obvious fact rather than making a claim that requires a defense. 		Responses that earn this point: <ul style="list-style-type: none"> Respond to the prompt by developing a position on the value, if any, of initiatives to improve STEM education and increase the number of students interested in the STEM disciplines, rather than restating or rephrasing the prompt. Clearly take a position rather than just stating there are pros/cons.
Examples that do not earn this point: Restate the prompt <ul style="list-style-type: none"> <i>“Some people think that STEM classes should be taught in schools today, but others think that it’s not necessary or effective.”</i> Address the topic of the prompt but do not take a position <ul style="list-style-type: none"> <i>“STEM education has increased in the United States as more and more corporations are hiring students who have mastery of STEM subjects.”</i> Address the topic of the prompt but state an obvious fact as a claim <ul style="list-style-type: none"> <i>“Concerned that American students are lagging behind internationally in STEM disciplines, U.S. schools are starting to put more emphasis on STEM education.”</i> 		Examples that earn this point: Present a defensible position that responds to the prompt <ul style="list-style-type: none"> <i>“The United States should place more emphasis on STEM initiatives so that American students can keep up with international competition for jobs.”</i> <i>“While an education in STEM disciplines is important, students should still take classes in the humanities, arts, and social sciences to be more well-rounded in their education and be more prepared for life after school.”</i> <i>“STEM education is an overrated trend that will not last. In fact, many employers look for qualities and skills that are not only taught in STEM classes.”</i>
Additional Notes: <ul style="list-style-type: none"> The thesis may be more than one sentence, provided the sentences are in close proximity. The thesis may be anywhere within the response. For a thesis to be defensible, the sources must include at least minimal evidence that <i>could</i> be used to support that thesis; however, the student need not cite that evidence to earn the thesis point. The thesis <i>may</i> establish a line of reasoning that structures the essay, but it needn’t do so to earn the thesis point. A thesis that meets the criteria can be awarded the point whether or not the rest of the response successfully supports that line of reasoning. 		

Reporting Category	Scoring Criteria				
<p>Row B Evidence AND Commentary (0–4 points)</p>	<p>0 points Simply restates thesis (if present), repeats provided information, or references fewer than two of the provided sources.</p>	<p>1 point EVIDENCE: Provides evidence from or references at least two of the provided sources. AND COMMENTARY: Summarizes the evidence but does not explain how the evidence supports the student’s argument.</p>	<p>2 points EVIDENCE: Provides evidence from or references at least three of the provided sources. AND COMMENTARY: Explains how some of the evidence relates to the student’s argument, but no line of reasoning is established, or the line of reasoning is faulty.</p>	<p>3 points EVIDENCE: Provides specific evidence from at least three of the provided sources to support all claims in a line of reasoning. AND COMMENTARY: Explains how some of the evidence supports a line of reasoning.</p>	<p>4 points EVIDENCE: Provides specific evidence from at least three of the provided sources to support all claims in a line of reasoning. AND COMMENTARY: Consistently explains how the evidence supports a line of reasoning.</p>
Decision Rules and Scoring Notes					
<p>Typical responses that earn 0 points:</p> <ul style="list-style-type: none"> • Are incoherent or do not address the prompt. • May be just opinion with no textual references or references that are irrelevant. 	<p>Typical responses that earn 1 point:</p> <ul style="list-style-type: none"> • Tend to focus on summary or description of sources rather than specific details. 	<p>Typical responses that earn 2 points:</p> <ul style="list-style-type: none"> • Consist of a mix of specific evidence and broad generalities. • May contain some simplistic, inaccurate, or repetitive explanations that don’t strengthen the argument. • May make one point well but either do not make multiple supporting claims or do not adequately support more than one claim. • Do not explain the connections or progression between the student’s claims, so a line of reasoning is not clearly established. 	<p>Typical responses that earn 3 points:</p> <ul style="list-style-type: none"> • Uniformly offer evidence to support claims. • Focus on the importance of specific words and details from the sources to build an argument. • Organize an argument as a line of reasoning composed of multiple supporting claims. • Commentary may fail to integrate some evidence or fail to support a key claim. 	<p>Typical responses that earn 4 points:</p> <ul style="list-style-type: none"> • Uniformly offer evidence to support claims. • Focus on the importance of specific words and details from the sources to build an argument. • Organize and support an argument as a line of reasoning composed of multiple supporting claims, each with adequate evidence that is clearly explained. 	
<p>Additional Notes:</p> <ul style="list-style-type: none"> • Writing that suffers from grammatical and/or mechanical errors that interfere with communication cannot earn the fourth point in this row. 					

Reporting Category	Scoring Criteria	
Row C Sophistication (0–1 points)	0 points Does not meet the criteria for one point.	1 point Demonstrates sophistication of thought and/or a complex understanding of the rhetorical situation.
Decision Rules and Scoring Notes		
Responses that do not earn this point: <ul style="list-style-type: none"> • Attempt to contextualize their argument, but such attempts consist predominantly of sweeping generalizations (“<i>In a world where . . .</i>” OR “<i>Since the beginning of time . . .</i>”). • Only hint at or suggest other arguments (“<i>While some may argue that . . .</i>” OR “<i>Some people say . . .</i>”). • Use complicated or complex sentences or language that is ineffective because it does not enhance the argument. 		Responses that earn this point may demonstrate sophistication of thought and/or a complex understanding of the rhetorical situation by doing any of the following: <ol style="list-style-type: none"> 1. Crafting a nuanced argument by consistently identifying and exploring complexities or tensions across the sources. 2. Articulating the implications or limitations of an argument (either the student’s argument or arguments conveyed in the sources) by situating it within a broader context. 3. Making effective rhetorical choices that consistently strengthen the force and impact of the student’s argument throughout the response. 4. Employing a style that is consistently vivid and persuasive.
Additional Notes: <ul style="list-style-type: none"> • This point should be awarded only if the sophistication of thought or complex understanding is part of the student’s argument, not merely a phrase or reference. 		

Important: Completely fill in the circle that corresponds to the question you are answering on this page.

Question 1

Question 2

Question 3



Begin your response to each question at the top of a new page. Do not skip lines.

"... the world's problems are never tidily confined to the laboratory or spreadsheet" (Source E). America lends itself to being a country with a plethora of opportunities & jobs that are constantly in demand, day in & day out; however, one of the most prevalent job opportunities in this time and age holds itself to be in STEM fields. This begs the question, if the demand for jobs in the STEM field are increasing, should America focus on increasing the number of students to apply and focus on these majors? In a sense, it would make sense to pour more resources into this field of education; however, this new found opportunity should not squander the prevalence of other fields such as literature or the arts. Therefore, although there should be more value placed on the development of STEM education, there should be no diminishing of the value of other subjects in order to achieve this goal.

Part of the ~~desire~~ desire that lays in increasing STEM education lies in the fact that the demand for people in this field are, and continue to, increase. Based on a study done by the United States Department of Education, it's projected for there to be a 62% increase in demand for biomedical engineers & over a third of the total percentage increase in medical scientists & software developers (Source B). This large increase can be attributed to the new form of economy that the US has taken on, particularly in the fact that there is now a focus on the customer than in the product (Source A). Both the increase in demand as well as the shifting economy work in tandem to establish the fact that those in STEM professions ~~benefit~~ benefit not only large businesses, but the people as well. There is also the fact that society itself has a heavy dependence on the developments of the STEM field; however, it holds true that there lacks focus on the field. Although one cannot sacrifice being well rounded ^{to succeed in} ~~in~~ one particular subject, their efforts to

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establish equal footing dilute the much needed focus for the field itself (Source F). The American education has failed to fully acknowledge the importance of STEM education as well, landing itself 27th out of 65 total education systems (Source A). This communicates further that in order to move with the changing economy as well as the increase in demand for STEM majors, America must put a larger value on the field as a whole.

Placing a focus on ~~stem~~ STEM education does not mean a whole displacement of other fields of education though, as more times than not it is found that all subjects work together in unison to produce a successful STEM based student. ~~While it is true that there is a demand for education~~ ~~that~~ It's the fact that literature & technology, although completely opposite ends of the spectrum, work in tandem due to the fact that both cultures are so highly dependent on each other (Source C). Large corporations, ^{such as Steve Jobs of Apple or Mark Zuckerberg of Facebook,} that host STEM geniuses ~~concede~~ ^{the fact} that they are as much dependent on the liberal arts as any other STEM major. This creates the narrative that although there should be a focus on ^{the} STEM ^{field} ~~majors~~, the larger goal lies in the fact that America should establish an education system that places subjects in unison instead of undermining each other. ~~This~~ ~~focus~~ with an increased focus on the equality of STEM education, the opportunities & jobs follow through. Much of the jobs that make up America's workforce have found themselves to place a higher priority on overall character as well, further highlighting the importance of developing ones overall presentability & ~~person~~ ideas from the lessons of literature & art (Source D). As a whole, the importance of a well rounded STEM education not only emphasize the development of students, but the fact that success becomes a byproduct due to the skills obtained.

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As such, this determines the fact that, while STEM education must be raised both in value & standards, the overall ~~reform~~ reform needed to create an equal educational system that provides opportunity for success sustains itself as the true goal in developing the STEM field. ~~Because~~ At the end of the day, "...the world's problems are never truly confined to a laboratory or spreadsheet" (Barra E)

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Americas image as an innovation and education hub has slowed, and much of this can be attributed to the unsatisfactory ^{implementation of} STEM. Because of the increasing need in STEM job opportunities, the incentives to retain Americas position as an innovation economy, and the importance of suppressing the decay of American aptitude in STEM subjects, there is great value improving STEM education and interest.

First, STEM-~~most~~ focused curriculum most improve because America is struggling internationally in STEM subjects. In Source A, the author points to the Program for International Student Assessment, which ranks 15 year olds internationally in STEM subjects. America made headlines by "sliding in Global Ranking in math, Reading and Science." This shows that there is value in increasing STEM education because other countries are rising over America in education, and in order to change that narrative, there must be an increase in K-12 education in STEM. By putting more value into the improving of STEM and the increasing of access in STEM educations, America can retain it's position as a top nation in education.

Second, there is great value in increasing STEM in America because there is a large demand increase in job opportunities in STEM fields according to trends of the past 10 years. According to the graph in Source B, there has been a 14% increase in all STEM-related occupations in America from ~~2010~~ 2010-2020. This means that the economy needs more and more

► **Important:** Completely fill in the circle that corresponds to the question you are answering on this page.

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people that are STEM-educated in the workforce. This means that American workers would be incentivised with better jobs if they were incentivised with a strong STEM education. Students who receive STEM-education are stronger job candidates in the workforce. To maximize the economy's output, employment, and general wellbeing, America must invest in an improved STEM-based education to supply the economy with able employees that will stimulate an innovative economy.

Increasing STEM-education in America is imperative in order to retain America's position as an innovation economy. According to Source F, in 2014, "4 out of 10 companies still find that at least half of their entry-level job applicants don't even have the basic skills in STEMs" (Source F). This shows the desperate need for an increased commitment to STEM, because having less than ~~wanted~~ ideal employee ability limits companies and limits the economic growth of America. Also, America's "bread and butter" has been innovation, but that has slowed—a consequence of the lack of STEM aptitude. STEM is the "spark to rekindle America's commitment to an innovation economy," and in order to maintain and grow upon America's economic status, they must emphasize STEM resources.

America must improve STEM education in order to present workers with the capability to work jobs, to improve the nation's status in education, and reinvigorate America's image

Important: Completely fill in the circle that corresponds to the question you are answering on this page.

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Begin your response to each question at the top of a new page. Do not skip lines.

as an innovation economy. By investing in STEM-education, America will benefit as the workforce will be capable and the economy, in turn, will prosper.

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Begin your response to each question at the top of a new page. Do not skip lines.

Although many people may not be on board with STEM-focused curriculum ~~at a young age~~ to start as early as elementary school, it's very beneficial as it would give easier access to ~~the~~ quality education, there's been seen a rise in the need of ~~STEM education~~ more engineers/ such fields, ~~the focus of an history and geography are very important~~ and crucial ~~because you can learn valuable skills.~~ ~~because you can learn valuable skills.~~ ~~because you can learn valuable skills.~~

By offering these STEM classes to young children from an early age it can help lead many kids to pursue a career in STEM which ~~is~~ is said there will be a great domestic need of STEM workers in the future (source A). It's also seen that through grades K-12 the US has placed 27th in math and 20th in science. With these classes we would rank higher meaning students would also learn a lot more. A graph from 2010 shows us how the percent increase in STEM jobs increased from 2010-2020. ~~This meaning~~ this meaning there will be an overall increase in the jobs for Mathematics. (Source B)

Schools, companies and important figures, have said to rule over arts with STEM and that it's a lot more important. In a graph from "The Association of American Colleges and Universities" we see that a skill/trait that isn't required ~~or~~ or looked for ~~when~~ when applying for

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A job is the knowledge of global cultures, histories, values, religions and social systems (DOCD). ~~By reading~~ ~~the lesson~~. Although this makes it seem as arts aren't important, people like a graduate from MIT has learn the ability to interpret her patients accounts and stories, which is a skill she learn reading literature. The arts should not be overpower by STEM because through the arts we learn about humanities and disciplines. (Source E).

Furthermore, as Kentucky's governor Matt Bevin has said ~~that~~ he wants more welders and fewer philosophers, when in reality the importance of majoring in the classics or art history. (Source C). The need to teach both music theory and string theory are both important for the US economy. It's even been considered to add a "A" in STEM. "A" Standing for Arts ... STEAM. The arts are a source of enlightenment and inspiration into a broader perspective. (Source F).

In conclusion, although it would be beneficial in order to place STEM classes in early education, it should not take out the importance of the arts as we can learn life skills through these courses which our all can also be beneficial to medical services and STEM careers.

Question 1

Note: Student samples are quoted verbatim and may contain spelling and grammatical errors.

Overview

Students responding to this question were expected to read six sources on the topic of STEM education and then write an essay that synthesized material from at least three of the sources and developed their position on the value, if any, of initiatives to improve STEM education and increase the number of students in the STEM disciplines. Students were expected to respond to the prompt with a thesis that takes a defensible position; use evidence from at least three provided sources to support their line of reasoning clearly, properly citing the sources; explain how the evidence supports their line of reasoning; and use appropriate grammar and punctuation in presenting their argument.

As per the Course and Exam Description (CLE-1.M, CLE-1.1), students were expected to be able to read the prompt, understand the task, use sources provided to write paragraphs that reflect their ability to establish claims and provide evidence, and demonstrate their understanding of prose and their ability to write using cogent, meaningful discourse.

Sample: 1A

Score: 1-4-1

Thesis (0–1 points): 1

The defensible thesis is found at the end of paragraph 1: “In a sense, it would make sense to pour more resources into this field of education; however, this newfound opportunity should not squander the prevalence of other fields such as literature or the arts. Therefore, although there should be more value placed on the development of STEM education, there should be no diminishing of other subjects in order to achieve this goal.”

Evidence and Commentary (0–4 points): 4

The response establishes a line of reasoning, acknowledging the “desire that lays in increasing STEM education” in paragraph 2 before devoting paragraph 3 to a nuanced look at the need to “establish an education system that places subjects in unison instead of undermining each other.” The response has adequate evidence, clearly explained throughout, using multiple sources in each paragraph (in order, Sources B, A, and F in paragraph 2 and Sources C and D in paragraph 3). Further, the concession that “there lacks focus on the field” in paragraph 2 uses two well-chosen paraphrases before returning to the central argument. The discussion of Source D in paragraph 3 illustrates the response’s consistency in supporting all claims, as seen in the assertion that “[a]s a whole, the importance of a well rounded STEM education not only emphasize the development of students, but the fact that success becomes a byproduct due to the skills obtained.”

Sophistication (0–1 points): 1

The response’s overall style is vivid and persuasive, as demonstrated in statements such as “Both the increase in demand as well as the shifting economy work in tandem to establish the fact that those in STEM professions benefit not only large businesses, but the people as well” (paragraph 2) and “Placing a focus on STEM education does not mean a whole displacement of other fields of education though, as more often than not it is found that all subjects work together in unison to produce a successful STEM based student” (paragraph 3). While the response combines sources in support of its

Question 1 (continued)

claims and recognizes the tensions in focusing on STEM versus education as a whole, it does not explore these tensions across sources. Additionally, the response does not necessarily situate the response within a broader context. Therefore, the response earned the Row C point for its consistently sophisticated style.

Sample: 1B**Score: 1-3-0****Thesis (0–1 points): 1**

The response earned the thesis point at the end of the first paragraph, asserting that “[b]ecause of the increasing need in STEM job opportunities, the incentives to retain Americas position as an innovation economy, and the importance of suppressing the decay of American aptitude in STEM subjects, there is great value improving STEM education and interest.”

Evidence and Commentary (0–4 points): 3

The response shifts the order of the thesis but does clearly delve into the three issues it mentions in the thesis, beginning with a clear focus on “struggling internationally” before moving to “job opportunities” and then the “innovation economy.” The response uniformly offers evidence for these claims. Some evidence is clearly explained, as with the discussion of Source F in paragraph 4: “This shows the desperate need for an increased commitment to STEM, because having less than ideal employee ability limits companies and limits the economic growth of America.” In other places, the discussion fails to integrate the evidence, relying on repetition of ideas and of the source’s point. For example, in paragraph 2 the commentary on Source A about the slide in global rankings merely repeats the provided details: “This shows that there is value in increasing STEM education because other countries are rising over America in education.”

Sophistication (0–1 points): 0

The repetition (“This shows,” “This means”) is one issue that prevents the style from being vivid and persuasive. No attempt is made to situate the argument in a broader context. All assertions are supported with a single source in each paragraph (in order, A, B, and F), but the response does not explore tensions or complexities across the sources.

Sample: 1C**Score: 1-1-0****Thesis (0–1 points): 1**

The response opens with a defensible thesis in the first sentence that sets up a counterargument with the phrase “Although many people may not be on board” and moves to a statement of the position: “its very benefic as it would give easier access to quality eduaction, theres been seen a rise in the need of more engineers/scientists, the focus of art, history, and geography are very important and crucial because you can learn valuable skills.”

Evidence and Commentary (0–4 points): 1

The response does cite numerous sources (in order: A, B, C, D, E, and F) but does not explain how the evidence supports the argument. For example, the discussion of “Doc D” in paragraph 3 is followed by a summary of Source E and an unsubstantiated assertion that “through the arts we learn

Question 1 (continued)

about humanities and disciplines.” This focus on summary or description can also be seen in paragraph 2 in the statement that “[t]his meaning there will be an overall increase in the jobs for mathematics.”

Sophistication (0–1 points): 0

Beyond the brief attempt to establish a counterargument in the thesis, the response does not identify complexities and tensions or extend those to the sources. The response moves quickly through the sources, which does not allow for a substantial exploration of the topic. In addition, the emphasis on summary prevents the response from achieving a persuasive style.