

# *AP Statistics Summer Assignment*

First, welcome to Advanced Placement Statistics. This course is like no other mathematics course in that the emphasis is placed on your ability to **think, reason, explain, and support** as opposed to memorizing and performing computations. **Reading comprehension** and **writing** are necessary skills for this class, equal in importance to mathematical ability.

Second, we strongly suggest you have your own calculator and to bring it to class every day. Though there are several on the market, we recommend you have a Texas Instruments graphing calculator (specifically the **TI-84 Plus Silver Edition**) as this is the calculator we will be using in teaching the material. Earlier models of the TI-84 and TI-83 calculators have most of what we will be using, but lack one or two important features. If you choose a different brand, we will try to assist you in using your calculator should you have any problems.

Third, you should be competent in basic algebra and in the probability and statistics you should have covered in Algebra II. Specific topics you should know include:

- **Descriptive Statistics:** Mean, median, mode, variance, standard deviation, range, quartile 1, quartile 3, minimum, and maximum
- **Statistical Displays:** Scatter plots, box-and-whisker plot, bar graph, and stem-and-leaf plot
- **Elementary Probability & Logic**

Lastly, you will need to be an active participant in the course. This means you **MUST** be willing to work with me and your fellow classmates often during the year and be willing to have a good time. If you are the type of student who enjoys the mental challenge of a good question, this is the right course for you.

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Attached is your summer assignment. Make sure to read the directions thoroughly. We look forward to working with and teaching each and every one of you over the course of the next year.

**Enjoy your summer and see you at the start of school!**

## **Part 1 - Article/Journal Review**

**Collect three newspaper, magazine, or Internet journal articles** that include statistical concepts. These concepts may include things like graphs, charts or averages and/or they report conclusions made as a result of using looking at data or studies.

For each of the articles:

- I. Provide a link to the article or attach a copy to your document
- II. Use one-two paragraphs to review the article and discuss the statistics mentioned and/or used. Below are some questions to consider as you formulate your review/discussion:
  - a. What was the purpose of the article? Why was it written?
  - b. Why did you choose this article?
  - c. How was data analysis used?
  - d. Were any conclusions stated? If so, what were they?
  - e. Is the article convincing? Do you believe the stated results? Explain.
  - f. Any other relevant or interesting information relevant to the article.

## **Part 2 - Why Study Statistics Paper**

Write a one-two page opinion piece explaining why high school students should take a statistics class and the importance of statistics in daily life. Use evidence from the following sources to make your case:

- <https://www.youtube.com/watch?v=jbkSRLYSojo> (5min)
- <https://www.youtube.com/watch?v=E91bGT9BjYk> (2min)
- [http://www.ted.com/talks/arthur\\_benjamin\\_s\\_formula\\_for\\_changing\\_math\\_education?language=en](http://www.ted.com/talks/arthur_benjamin_s_formula_for_changing_math_education?language=en) (3min)
- <https://www.discoverdatascience.org/programs/minor-in-data-science/> (very short article)
- [https://www.youtube.com/watch?time\\_continue=5&v=wV0Ks7aS7YI](https://www.youtube.com/watch?time_continue=5&v=wV0Ks7aS7YI) (3min)
- [https://www.youtube.com/watch?v=cIZzl\\_QS7YA](https://www.youtube.com/watch?v=cIZzl_QS7YA) (3min)

The paper should conclude with a paragraph explaining what you hope to gain from taking a class in statistics.

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Feel free to contact us by e-mail over the summer at with any questions you have.

- Mr. Rosenbloom (Middletown South) - [RosenbloomA@middletownk12.org](mailto:RosenbloomA@middletownk12.org)
- Mr. Swingle (Middletown South) - [SwingleS@middletownk12.org](mailto:SwingleS@middletownk12.org)
- Ms. Vande Creek (Middletown North) - [VandeCreekT@middletownk12.org](mailto:VandeCreekT@middletownk12.org)

\*\*\*Both parts should be submitted in one document and should be shared with us **BEFORE** the first day of school on **September 5, 2019**.\*\*\*

<b>Scoring</b> <b>E - All 5 components clearly and accurately answered</b> <b>P - 3 or 4 components clearly and accurately answered</b> <b>I - 2 or fewer components clearly and accurately answered</b>	<b>Score - E, P, I</b>
<b>Article 1</b> 1. Provides link to article or attaches documents 2. Clearly defines the purpose of article and why it was written 3. Clearly defines why the article was chosen and its relevance to the course 4. Clearly states how data analysis was used in the article 5. Clearly states the conclusion and whether or not the results are convincing  Comments:	
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<b>Overall Comments:</b>	<b>Total:</b>

**Rubric**

<p style="text-align: center;"><b>Component</b></p>	<p><b>Component Score:</b> No Evidence of Component = 0, Just Getting Started = 1, Competent = 2/3, Sophisticated = 4</p>
<p><b>Focus/Opinion</b> – Opinion demonstrates an understanding of the importance of statistics in daily life. Provides reasons that are supported by facts and details.</p>	<p><b>Score:</b> ____ <b>Comments:</b></p>
<p><b>Organization</b> – Organization of ideas is purposeful, coherent, and well-thought.</p>	<p><b>Score:</b> ____ <b>Comments:</b></p>
<p><b>Support/Evidence</b> – Supports opinion skillfully with insightful use of all supporting materials and additional materials if appropriate.</p>	<p><b>Score:</b> ____ <b>Comments:</b></p>
<p><b>Writing/Language</b> – Writing and vocabulary is that of a high school AP student – shows command of English language: usage, grammar, spelling, punctuation, and fluent.</p>	<p><b>Score:</b> ____ <b>Comments:</b></p>
<p><b>Conclusion</b> – clearly communicates goals</p>	<p><b>Score:</b> ____ <b>Comments:</b></p>
<p><b>Overall Scoring</b> Essentially Correct – Total score = 20 Partially Correct – Total score = 12 or more Incorrect – Total score of 9</p>	<p><b>Sum of Scores:</b> ____ <b>E/P/I?:</b> ____</p>
<p><b>Additional Comments:</b></p>	