

AP Statistics 2018 Summer Assignment

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Falling Asleep



Statisticians fall asleep faster by taking a random sample of sheep.

Control Groups



"I couldn't afford a control group so I decided to go with an out-of-control group."

You can access this document as a file on my webpage, msmccllland.weebly.com.

Welcome to AP Statistics! This course is not your typical math course. This is the one math class you are guaranteed to use throughout your life. To be successful in this course you need to be competent in basic algebra, but more importantly, you must be able to **explain** your answers, not just simply get the correct answer.

Although this **is** a math course, AP Statistics concentrates ***much more heavily*** on thinking, reasoning, writing, and communicating than it does on number-crunching. Graphing calculators and computer software programs will do most of the math for you.

This course is focused on four interrelated areas of concentration;

- **Exploring Data.** What patterns do we see in a set of data? What do these tell us about the data? What can we learn from them?
- **Sampling and Experimenting.** What plan would you implement to conduct a study? What is simulation and how can we use it to model real-life phenomena?
- **Anticipating Patterns.** What can you surmise about random phenomena by using probability? How can you extrapolate your model into the future? What might you hope to have happen?
- **Statistical Inference.** What conclusions can we make about an entire population based on a relatively small sample? How valid are these conclusions?

This summer assignment is meant to introduce you to statistics. Recognizing that summer should also be a time for you to relax, have some fun and recharge your batteries, this assignment is not meant to be too time-consuming or intense. Have fun with it – explore and try to learn something about the amazing world of stats.

Here's what you need to do:

A. Buy a TI-84 Calculator or Get an App:

It is strongly recommended that you have a graphing calculator for use at home. Without it, you will be unable to complete the homework. All of the examples and problems we will work on will be based on this calculator. You will be using your calculator almost every class period and familiarity with it is required for success on the AP Exam. You will probably need this calculator for future math classes and for college. If not, you can sell it when the year is over.

At the very least, download one of the following apps for your phone:

- Apple IOS: GrafNCalc 83 (costs about \$1)
- Android: wabbitemu - free

These emulate the TI-84 calculator, and are a good substitute.

We do have a class set of calculators for use in school, but this is NOT a substitute for having your own. **You will be REQUIRED to have one of the above.** I will be checking to see that you have one of the above by the end of the first week of school.

B. Visit My AP Statistics Web Site

Become familiar with the AP Stats resources on my Web page, msmcclelland.weebly.com. There are lots of great sites to help you with this class and to provide insights about statistics.

C. Sign up for texting at Remind.com

See the last page of this document for instructions. Use this to communicate with me whenever you need to. I'll try to respond as quickly as possible, though I will be away for most of July and not checking email or texts.

Graded Summer Work: NOTE: THIS SHOULD BE YOUR OWN WORK. THE PROBABILITY THAT 2 OR MORE OF YOU WOULD CHOOSE THE SAME MATERIAL IS CLOSE TO ZERO. DO NOT COPY SOMEONE ELSE'S WORK, OR BOTH OF YOU WILL GET NO CREDIT.

C. Watch Hans Robling

Watch 2 or 3 videos by Hans Rosling. (Just google him and you'll see all sorts of stuff. He has several TED videos, most are not that long, and many videos on YouTube.)

Go to schoology (access code: [NCTS5-9X8ZK](#)) and join the discussion about his videos. What are you learning, what surprises you, what do you want to learn more about? Anything that comes to your mind. Say something that means something to you, not just something to satisfy this requirement. Respond to each other. Be sure to name the video that you watched and where you found it. Have fun, there is fascinating material out there.

Your requirement is to make at least one meaningful original post, and respond to at least 2 of your classmate with your own thoughts. Dig deep!! This will be graded as follows: B for just meeting the requirement, A- to A for showing insight, originality of thought, curiosity, etc. (You don't have to write a lot, just make it meaningful.)

- D. Find and listen to a Freakonomics podcast** (can be found on your phone's podcast app or online, each episode is about 1 hour. There are lots. Find one that interests you). Take notes about any statistics or studies that are mentioned. Post your information on schoology: Name of the episode, type of study or studies that were done, results that were found.

E. Create a Real World Statistics Portfolio

The beauty of statistics is that it is all around us. We see examples of good and bad stats every single day in newspapers and magazines, on newscasts and sporting events and on a host of web sites--especially those dealing with politics, the economy and the government.

To really see how statistics impacts our lives, the third part of your summer assignment is to develop a **Real World Statistics Portfolio**.

Find newspaper, magazine, video or internet articles, stories, or even advertisements that include statistical concepts--both good and bad. These may include things like graphs, charts or averages. They may also report conclusions made as a result of looking at data.

For each item, highlight the statistics mentioned and answer the following questions:

- a. What is the source of the data? When and where was it published?



- b. What was the purpose of the article/statistic/data? Why was it written/produced?
- b. Were any conclusions stated? If so, what were they?
- c. Is the article/statistics/data convincing? Do you believe the stated results? Explain.

You must have **at least 3 articles by September from at least 2 different sources**. Each article must be current—that is, it must have appeared in the news from 6/1/18 through 9/1/18. Do not submit older articles. Post your information on schoology.

F. Optional: Get a head start on reading the textbook: Read Chapter 4 in “The Practice of Statistics”

We will start the course in Chapter 4—Designing Studies. At a minimum, you should read section 4.1. You can access a 30-day online version of the book from my web page using the following instructions:

1. Go to msmcclelland.weebly.com
2. Click on the Menu in the upper-left corner and select “Statistics (AP and Honors).”
3. Choose “Statistics (AP and Honors)” again.
4. Scroll down to the link “Textbook Ebook.” This will take you to the publisher’s page.
5. Sign up as a student and select “I need to pay later.” Enter your email address. This will set you up with a trial. You will 30 days to use this site. (Note: if you use up your 30 days, you can restart with a different email address.)

In September, I will provide you a physical textbook.

You will find that in AP Statistics, there will be A LOT of reading involved. Every problem we do is a word problem. Your final answer to any problem will be a written answer, not just a number. The actual math we do in class is fairly easy, and a graphing calculator will do most of the actual work for us. So what’s so tough about this class then if the math is so easy, you ask? The actual concepts learned in class, memorizing some formulas and conditions, and being able to work out a problem with the correct procedure is the tough part. Instead of working out math problems this summer that you won’t even do in statistics class, I want you to focus on noticing statistics around you – in what you read, see online or on TV, hear about on the radio, etc.

This class is to prepare you to take the AP Statistics exam so you may receive college credit. Chances are, no matter what major you pick in college, you will have to take some sort of statistics class. You should take AP Statistics very seriously, study hard throughout the year, take the AP exam in May, and, hopefully, receive a high enough score to place out of it in college.

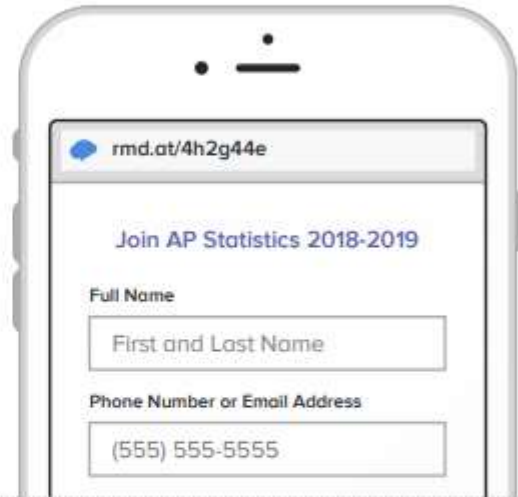
Pick a way to receive messages for **AP Statistics 2018-2019**:

A If you have a smartphone, get push notifications.

On your iPhone or Android phone, open your web browser and go to the following link:

rmd.at/4h2g44e

Follow the instructions to sign up for Remind. You'll be prompted to download the mobile app.



B If you don't have a smartphone, get text notifications.

Text the message [@4h2g44e](https://t.me/4h2g44e) to the number 81010.

If you're having trouble with 81010, try texting [@4h2g44e](https://t.me/4h2g44e) to (571) 465-9934.

* Standard text message rates apply.



You can download the Remind app, too.

It is expected that all students sign up to receive these messages, unless you can provide a reason why you cannot!

Questions???

Email me at dmcclelland@epsd.org, or text me.
Have a great summer and see you in September.

