Argumentative Performance Task

Name: _____

Task:

There has been much discussion and excitement in the news recently about the idea of self-driving cars. Are they safe? Should we have a steering wheel and actual licensed driver in the car? Are they ready to be sold to the public and used by everyone? The journalism club advisor has asked you to research the topic of self-driving cars. As a part of your research, you have found four sources and a video about these automated vehicles.

After you have reviewed these sources, you will answer some questions about them. Briefly scan the sources and the two questions that follow. Then, go back and read and watch the sources carefully so you will have the information that you will need to answer the questions and complete the research. You may use scratch paper to take notes or mark on the sources.

In Part 2, you will write an argumentative essay on the topic related to the sources.

Directions for Beginning:

You will now examine several sources. You can re-examine any of the sources as often as you like.

Research Questions:

After examining the research sources, use the remaining time in Part 1 to answer the two questions about them. Your answers to these questions will be scored. Also, your answers will help you think about the research sources you have read and viewed, which should help you write your argumentative essay.

Source #1:

Self-driving Cars Coming Soon

By Michael J. Petrilli

Anyone with even a passing interest in science fiction surely gets a kick thinking about Google's self-driving cars, now under development and ready for road testing. Imagine: you could spend *even more* of your day staring at a screen or writing with your thumbs if you didn't have to pay attention to traffic during your commute to work!

But amid all the buzz and brouhaha, an important point has gone unmade: while auto-piloted autos will surely make life more convenient for many adults, they will be nothing short of revolutionary for adolescents (and their parents). They will change the teen (and tween) years as we know them.

Why is that? Here's a basic fact: most adolescents are ready for independent mobility well before they are qualified to operate a car. Those lucky to live in a city already know this. Many parents let their 12-year-olds ride a train or city bus or a bike to school or a friend's house; some even let their 10-year-olds do so. But of course these kids can't drive the family car. But soon they will.

Well, not "drive." But sit in the back as a robot takes them to school, or soccer practice, or karate class. Think about what this means for the parents. No more shuffling tweens around town, no more spending years with "chauffeur" as your primary job description.

Of course, this raises many questions, all of which deserve answers. How old must children be in order to be driven by a Google-bot? If they are old enough to walk to school (say, eight), is that old enough?
make these decisions? Or should states set the rules?

Furthermore, if a robot can drive teens around town more safely than teens themselves, might states push back the "manual-driving" age to 21 or later to wait until young people's brains are really up to the task? Such a policy is politically infeasible now because of the interest in allowing those 16 and up to get themselves to their jobs. But with a computerized chauffeur, that's no longer a problem. (Of course, it will be a while until everyone has an autonomous auto, and until every road is ready for them, too.)

Let's take this thought experiment even further. If teenagers didn't need to "drive" their own cars—if they were no longer *allowed* to drive their own cars—might we be able to eliminate the drinking age? Or move it back down to 18, where it used to be in many places? In the 1980s, Uncle Sam gave states incentives to raise it to 21 because of a concern about drunk driving. (Teenagers have famously bad judgment, weak self-control, and proclivities toward recklessness.) But once Google becomes a designated driver, that rationale goes away.

Already the federal government is funding technology that will passively detect any driver's blood-alcohol level and render the vehicle inoperable if that level exceeds the legal limit. Autonomous autos could go one step further and give the driver a ride home (and perhaps a stern lecture to boot).

Schools will need to respond to these big changes, too. It's inevitable that they will eventually purchase "driverless buses." (I would assume parents will demand an adult onboard, but that could be a teacher's aide instead of a "driver." He or she could even provide instruction on the way to school.) Already the National Highway Traffic Safety Administration is preparing to require "connected vehicle" technology on school buses (gadgets that allow vehicles to talk to one another in order to avoid crashes). Eventually, driverless buses will surely be seen as the safer alternative.

But the advent of driverless cars will change school routines as well. Imagine carpool lines without parents. Seventh graders arriving at middle school dances in their own rides. High school seniors spending their weekends at bars. "Car-key kids" instead of "latch-key kids." (Will schools allow kids' cars to park themselves nearby, or must they return home until pickup time?)

This might sound fanciful, but it could all be a reality before today's kindergartners walk across the graduation stage. Strap on your seat belts. It's going to be a wild ride.

Source #2:

Tesla driver killed while using autopilot was watching Harry Potter, witness says

Sam Levin and Nicky Woolf in San Francisco
Friday 1 July 2016

The Tesla driver killed in the first known fatal crash involving a self-driving car may have been watching a Harry Potter movie at the time of the collision in Florida, according to a truck driver involved in the crash.

The truck driver, Frank Baressi, 62, told the Associated Press that Tesla driver Joshua Brown, 40, was "playing Harry Potter on the TV screen" during the collision and was driving so fast that "he went so fast through my trailer I didn't see him".

The disclosure raises further questions about the May 7 crash in Williston, Florida, which occurred after Brown put his Model S into Tesla's autopilot mode, which is able to control a car by itself while it's driving on the highway.

The fatal crash, which federal highway safety regulators are now investigating, is a significant setback and a public relations disaster for the growing autonomous vehicle industry.

Baressi, who did not immediately respond to requests for comment, said the Harry Potter movie "was still playing when he died and snapped a telephone pole a quarter mile down the road". He told the AP, however, that he heard the movie but didn't see it.

The Florida highway patrol told Reuters that there was a portable DVD player in the vehicle.

According to Tesla's account of the crash, the car's sensor system, against a bright spring sky, failed to distinguish a large white 18-wheel truck and trailer crossing the highway. In a blogpost, Tesla said the self-driving car attempted to drive full speed under the trailer "with the bottom of the trailer impacting the windshield of the Model S".

The top of the vehicle was "torn off by the force of the collision", according to a police report in the local Levy County Journal. Baressi was uninjured.

Elon Musk, the CEO of Tesla, tweeted his condolences regarding the "tragic loss", but the company's statement deflected blame for the crash. His 537-word statement noted that this was Tesla's first known autopilot death in roughly 130 million miles driven by customers.

"Among all vehicles in the US, there is a fatality every 94 million miles," the statement said.

It goes on to say that the car's autonomous software is designed to nudge consumers to keep their hands on the wheel to make sure they're paying attention. "Autopilot is getting better all the time, but it is not perfect and still requires the driver to remain alert," the company said.

Source #3:

Major Pros and Cons of Autonomous Vehicles
By **Sami Haj-Assaad** Feb 24, 2017

There's no doubt that driverless cars are coming, but in order for them to reach their full potential, cities will have to change in significant ways.

A recent report from engineering and architecture group IBI has outlined a number of ways that autonomous cars can improve and fix some of our current transportation issues, but also how they can make certain situations worse if not managed properly.

Described in the report as Connected and Autonomous Vehicles (CAVs), these cars have the ability to communicate with infrastructure (like traffic lights and buildings), mobile phones (even ones being used by pedestrians), and other vehicles on the road. They also have a series of sensors that help them see and interpret the world around them, and are able to drive completely autonomously.

Cities and infrastructure will have to change before autonomous cars can become mainstream. Here are four major pros and cons of these changes.

PRO: Traffic Safety Improvements

The study points out that 90 percent of accidents are caused by driver error, and 20 to 30 percent of those accidents are a result of distracted driving. Additionally, over 30,000 people were killed in accidents last year.

In IBI's report, it's noted that driverless cars will help reduce the severity of 90 percent of all traffic accidents. Many think that when fully autonomous cars (vehicles without steering wheels or controls) arrive sometime in 2020, it will significantly reduce traffic-related collisions and fatalities.

CON: Things Can Get Worse

While the report believes self-driving cars will have real safety benefits, it also suggests that "the transition period when both CAVs and non-CAVs are on the road could make matters worse before it makes them better." Confusion about the capabilities of these vehicles along with the newness of the technology might also cause some accidents.

PRO: Efficient Transportation

Traffic is getting worse in big cities and the combination of personal vehicles, public transportation, and taxis/ride sharing are making things even more congested. However, the IBI Group's report suggests that autonomous vehicles could "improve public transportation services and decrease auto ownership by enabling more efficient, user-friendly, and low-cost on-demand transportation services, even in low-demand areas."

Furthermore, even if you're stuck in traffic in an autonomous car, you can use that time more effectively, either for leisure or for getting some extra work in. Finally, autonomous vehicles can be more fuel and space efficient by "platooning." That's where they can bunch together in a neat line, which reduces aerodynamic drag, similar to how racers draft each other.

CON: More Vehicles, Congestion, Wear and Tear

On the other hand, congestion can increase if people find the convenience of an autonomous car more enticing than sharing a ride through public transportation, or if they prefer to own their own autonomous car rather than opting into a ride-sharing service. Furthermore, if autonomous cars are always in use as ride-sharing vehicles, they will quickly accumulate a lot of mileage, which may lead to more wear and tear or breakdowns.

Pro: More Space for Housing, Retail or Public Areas

There's a lot of land being wasted for cars. The IBI Group estimates that there are between four and eight parking spots, or up to 1,300 square feet of parking, for every automobile in North America. Adding to that wasted space, automobiles are parked, on average, 95 percent of the time. Think about how many parking garages, parking lots and parking lanes there are in cities.

However, many view autonomous cars as being driverless Ubers or taxis, something you would summon for a short trip around town. Shared cars will be on the move all day picking people up and dropping them off, so they won't need to be parked.

As a result, autonomous cars won't need to park and if they do, it shouldn't be for very long before another rider summons it for a ride. As a result, a lot of the space being used for parking lots and structures can be turned into something more useful, be it housing, business or recreational public space like a park. Imagine how much more efficient it would be if parking lanes in congested cities turned into driving or bike lanes.

With this ride-sharing premise, car ownership might actually go down, which will lead to fewer cars in general being on the road.

CON: More Urban Sprawl

However, if autonomous cars are too accessible and reliable, people will instead buy their own autonomous cars instead of using car sharing services, further encouraging urban sprawl (spread). Furthermore, cities make a lot of money by ticketing parking infractions — this form of income may completely disappear.

PRO: Cheap Transportation

Driverless cars are expected to be more affordable than other ride-sharing options because you won't have to pay a driver. Using a ride-sharing service will also be cheaper than owning a car. Furthermore, if a public transit service is facing delays, driverless cars can spring into action to help reduce the stress to travelers.

CON: Connected Infrastructure Cost and Anti-Robot Backlash

One big step to making autonomous cars more mainstream (normal) is to separate driverless cars from regularly operated cars. The author of the report, Alex Mereu, explained that research shows roundabouts are easier for autonomous cars to navigate than intersections, and that traffic lights and road signs should have transmitters so that vehicles can interact with them better.

However, there will be a cost associated with building new roads and city infrastructure that is friendly to autonomous vehicles. The cost will likely be covered by taxpayers, something that is usually met with criticism and hesitation. Retrofitting (adapting) current city structure to feature sensors and connected transmitters to communicate with vehicles isn't a cheap venture.

Additionally, convincing people that AI and driverless cars are safe and better than human drivers is another area of concern. Driverless cars are already facing backlash and they haven't even arrived in the public's hands yet.

Many estimate that driverless cars will be on our roads for general public use by 2020, but there are still many obstacles in the way. The cars themselves need to be ready, but so does the public. Our cities will also have to transform in order to take advantage of self-driving vehicles and how they can make life easier for citizens.

Source #4:

PRO: Sit back and enjoy the self-driving ride

Are Americans ready for cars that can drive themselves? Yes, and they have been for more than a century.

The horses that pulled buggies did not need anyone to drive them. They were capable of finding their way home with little or no help from humans. Traveling without a driver is not a new idea — it's just a better way to travel.

At the beginning of the 20th century the number of vehicles increased. The rate of deaths and injuries caused by vehicular accidents likewise jumped. Modern technology and safer car design have helped decrease the number of fatal crashes, but the numbers still remain staggering.

Making The Streets Safer

In the U.S. alone, vehicular accidents have killed more than 32,000 people each year for the past five years in which accidents were tracked. That's as if five 737 jets crashed every week. It is more than double the number of people who died worldwide during the recent Ebola outbreak.

Between 93 percent and 95 percent of these fatal accidents are caused by human error. That figure comes from the National Highway Traffic Safety Administration, the government agency that works to make America's roads safe.

In addition to deaths, vehicle accidents send about 2.5 million injured people per year to emergency rooms. We accept these accidents because cars are incredibly useful and give us the freedom to go where we want, when we want. Self-driving vehicles deliver even greater utility by freeing driving time for other things. Instead of driving, people could be texting, working or just relaxing.

The self-driving cars that are now being developed use many forms of technology to drive themselves. Radar, cameras and other devices are used to "see" the world around the car. Advanced computer systems drive the car from one destination to another without any help from humans. These cars should soon be ready for mass production.

Self-driving cars remove many of the human mistakes that cause injuries and deaths. Self-driving cars can also help disabled and elderly people get from place to place on their own.

On The Road Toward Self-Driving

That is not all. Young people seem to love driving less than they did in the past. They drive fewer miles and some do not even get their driver's license. Rather than driving to see friends, they may simply text or call them. For many young people, owning a smartphone is now more important than owning a car.

Buying a car is also a major expense, as is paying for the gas that fuels it. Then there is the insurance people have to buy to protect them in case they get into an accident. A good insurance plan might pay for all the damage caused by an accident, but it could also cost hundreds of dollars each month. That cost would be lower with self-driving cars.

In some ways self-driving cars are already here. Some of the most recent safety improvements in cars come very close to self-driving. New technology can control a car's speed, keep it in its lane and help with parking. These put us on a clear path toward self-driving cars.

Of course, self-driving cars will not create a perfect world. There will still be some accidents, although far fewer. There will be some people who will never give up driving their cars and others who live in areas difficult to serve with self-driving cars.

Some lawmakers may try to prevent self-driving cars from using our roads. They might do this fearing the criticism that will come after the first accident caused by a self-driving car. Other people will see self-driving cars as a threat to their business and try to stop them from becoming popular.

Self-driving cars offer such a wealth of advantages that it makes little difference whether Americans are ready. Americans need to get ready. Self-driving cars will soon be in their rear-view mirrors.

CON: You can't take humans out of the self-driving equation

No one likes backseat drivers. They question every decision a driver makes and sometimes they can be nagging. They constantly attempt to correct what they consider to be the driver's errors of judgment.

Can you imagine a backseat computer doing the same thing? One you can't kick to the curb?

The computer in question would actually be under the dashboard. It will soon be taking over the driving for you.

It's the self-driving car, and it's no longer science fiction. It's already here. Bits and pieces of it, anyhow. Many new cars use cameras and sensors to park themselves, for instance. Others have accident avoidance systems that can completely stop the car without the driver even touching the brakes.

Introducing The V2V Cadillac

Next year, General Motors will debut vehicle-to-vehicle, or V2V, communications in some of its Cadillac models.

The system makes it possible for cars with V2V technology to have electronic conversations among themselves. They will be aware of one another's position and speed in order to predict and avoid accidents. This could prevent situations where, for instance, car A runs a red light because its driver wasn't paying attention and strikes car B.

With V2V, the driver of car A would be safety-netted by the car. Car A would automatically brake for the light and avoid hitting car B.

These are some of the elements of the fully self-driving car. And some of it sounds good — and may well be. But taking the driver out of the equation entirely — or relying too much on technology — can have its downside, too.

As anyone who owns a computer knows, computers develop glitches. It's annoying when it happens at your desk. But it could be deadly when it happens at 75 miles per hour on the freeway.

And it's probably more likely to happen with a self-driving car. The computer that controls the car — unlike the computer on your desk — will be subjected to extremes of heat and cold, vibration and moisture, et cetera.

Over time, something's likely to go wrong. If the human driver has become only a passenger — no longer expected or perhaps even able to actually drive the car — what will happen?

If The Driver's No Longer The Driver ...

And who will be responsible? Legally speaking, the driver is currently responsible for the safe operation of the vehicle.

But how can we hold the driver responsible when he or she is no longer the driver?

Will the manufacturer of the self-driving car be to blame in that case?

How will car insurance rules and costs change?

If the driver no longer is a driver, why should he or she be required to buy insurance at all? If the person is not actually driving the car, he or she will not need protection from the damages caused by any accidents. Will he or she even need a driver's license? When you ride the bus you are not required to have a special license — or carry insurance. Why wouldn't the same principle apply here?

An even bigger problem with self-driving cars is how to program them to ignore traffic laws when it's necessary in order to avoid an accident. For example, cars cannot cross the double yellow line. What happens if a child runs into the car's path and the only way to avoid hitting the child is to turn out of the way?

It's against the law, technically, to cross the double yellow line — but it's the right thing to do in this instance. And a human driver would do it, but a self-driving car might not because it is programmed to obey the traffic laws. Unlike humans, the self-driving car cannot use its judgment to ignore a law to save a life.

Also, how will self-driving cars deal with human-driven cars, and what about the reverse? Will people who own human-controlled cars be required to turn their cars in or no longer be allowed to drive them?

Technology is usually a good thing, but problems arise when technology is no longer under human control, as could happen here.

Technology that assists human drivers — that's a great idea. But technology that pre-empts them — that could be a very bad idea, indeed.

Source #5:

PROS & CONS OF SELF-DRIVING CARS

Pros
- SELF-DRIVING VEHICLES CAN REMOVE HUMAN ERROR FROM THE EQUATION WHEN IT COMES TO CAR ACCIDENTS
- SELF-DRIVING VEHICLES CAN REDUCE TRAFFIC JAMS AND SAVE DRIVING TIME
- SELF-DRIVING VEHICLES CAN PROVIDE TRASPORTATION FOR INDIVIDUALS WHO ARE DRIVING IMPAIRED

Fast Facts
- EACH YEAR ABOUT 2 MILLION PEOPLE HAVE PERMANENT INJURIES AS A RESULT OF CAR ACCIDENTS
- 94% OF SERIOUS CRASHES ARE DUE TO HUMAN ERROR
- ABOUT 1/3 OF ALL MOTOR VEHICLE FATALITIES FOR THE PAST TWO DECADES, SPEEDING HAS BEEN THE MAIN FACTOR

Cons
- SELF-DRIVING VEHICLES CAN BE PRONE TO HACKING BUT DEVELOPMENTS ARE UNDERWAY FOR CYBERSECURITY PROTECTION
- LIABILITY WHEN IT COMES TO CAR ACCIDENTS WITH SELF-DRIVING VEHICLES ARE STILL BEING DISCUSSED. IS THE CAR COMPANY OR CAR OWNER LIABLE?
- SELF-DRIVING VEHICLES REQUIRE TRAFFIC LIGHTS, LINES AND SIGNS IN ORDER TO OPERATE SAFELY. THIS WOULD LEAD TO FINANCIAL STRESS ON KEEPING ROADWAYS UP TO PAR

Sources:
https://driving-tests.org/driving-statistics/
https://www.nhtsa.gov/technology-innovation/automated-vehicles-safety
http://dx.doi.org/10.5772/intechopen.93020

Questions:

1) Choose **one** idea provided in the table in Source #5. Find information in **two other sources** that supports that idea. Cite evidence and identify the source of each piece of information by title or number. Explain how the evidence from the other two sources supports the idea from the table.

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2) Put an X in the boxes to show the claim(s) that each source supports. Some sources will have more than one box selected.

	Source #1	Source #2	Source #3	Source #4	Source #5
Self-driving cars would be convenient for those who are young or not able to drive.					
Fewer people will own cars when self-driving cars come out.					
Safety is one concern for self-driving cars.					

Part 2:

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

Your Assignment:

Now that you have completed research on the topic of self-driving cars, the journalism club advisor has asked you to write an argumentative essay about self-driving cars for the next issue of the school newspaper. The audience for your essay will be other students, teachers, and parents.

Using more than one source, develop a thesis/claim to explain your view of self-driving cars. Once you have the thesis/claim, select the most relevant information from more than one source to support your thesis/claim. Then, write a multi-paragraph argumentative essay explaining your thesis/claim. Clearly organize your essay and elaborate your ideas. Unless quoting directly from the sources, use your own words. Be sure to reference the source title or number when quoting or paraphrasing details or facts from the source.

Argumentative Essay Scoring:

Your essay will be scored on the following topics:

Score Point	Organization and Clarity	Evidence and Reasoning	Language and Conventions
Exemplary 4	• Introductory paragraph includes an **exciting and unique hook** to grab the reader's attention and an **assertive thesis statement** that takes a position and previews the argument and supporting evidence • Body paragraphs are **effectively organized** and **present logical reasons and evidence** to support the claim and refute any counterclaims • Includes **well-chosen** text evidence, precise language, and academic vocabulary related to effective argument writing • Concluding paragraph **restates the thesis statement** and **sums up the essay, tying nicely back to the hook in the introduction**	• **Accurately explains and convincingly argues** claim. • Includes **relevant factual evidence** from **two resources in order** to support each logical reason • Ends by **effectively restating** the thesis statement and referring back to the introduction	• Demonstrates a **strong command** of the conventions of standard English grammar and usage, as well as of standard English capitalization, punctuation • Vocabulary is **appropriate** to the topic (relevant technical vocabulary; accurate vocabulary for an assertive thesis statement and convincing argument; vocabulary for making a claim supported with logical reasons)