Tab 1

Engineering Notebook

Mechatronics Engineering 2025-2026

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Instructions:
For each day that you enter data into your Engineering Notebook, Copy this template text and table for each project entry. The difference between a Physical Engineering Notebook and this Notebook will be that your most current entry (i.e. **Your newest entry) will be at the "top" like a blog…** Check here for a Rubric

Sometimes you will see a comment from your teacher. Please read, and if it's a question, answer it.

Comment or Question from Mr. Burnham: Check out the **New Blog Template Here** Also, please have the newest Blog Entry here at the top… and turn all your text black from the **red**

<Date> <Title - Daily/Weekly "Blog" Project Title - compelling, d

Get the template from here **New Blog Template Here**

10/2/25 - *Daily Blog* - *Day 32*

Entry Ticket: *Reading/Writing/Alternate Assignment*
What I read was about H-Smart which is AI technology that tracks eye movements to detect signs of fatigue or cognitive load that may be dangerous when it comes into space. By being able to detect these signs, it will lead to higher success rates when traveling as well as avoiding any dangers that can occur. This is very beneficial to space exploration, especially farther distances because it will be more challenging to get to those places. Lab #2 Lab #3

10/1/25 - *Daily Blog* - *Day 31*

Entry Ticket: *Love of Reading*
I read "Astrophysics for people in a hurry" by Niel DeGrasse which talks about the formation of the elements and periodic table. It explains the 3 most abundant elements in the universe such as Hydrogen, Oxygen, and Helium. They also explain how their names were derived from Roman/Greek words. It also explains there are still new elements being discovered as well as the big bang resulting in a few newer elements.

09/30/25 - *Daily Blog* - *Day 30*

Entry Ticket: *TLDR Tech Newsletter:*
The article I chose to read today was about how easier it is to shop online. By using ChatGPT, we can type a prompt, like "best suits to buy", ChatGPT will list down suits for your liking and it will allow you to buy it from the AI website instead of buying it at the home website. It will allow you to buy stuff straight from ChatGPT, but it will have a fee if done so. This is innovating due to having a big change in e-commerce. It will provide people to purchase items online much easier just by providing a response. It will give

https://github.com/Serguyo/Arduino-C-/blob/main/Ultrasonic_sensor_Lab%231.io

Presentation

Doc

09/29/25 - *Daily Blog* - *Day 29*

Entry Ticket: *TLDR Tech Newsletter:*
The article I chose to read was about the CEO's of Google and Qualcomm working together to bring forth a new technology by using both PC/desktop and mobile technology into a single operating system. This type of technology can be very beneficial due to being able to have access to both technology many have on their phone and also from computers. It

09/26/25 - *Daily Blog* - *Day 28*

Skills usa

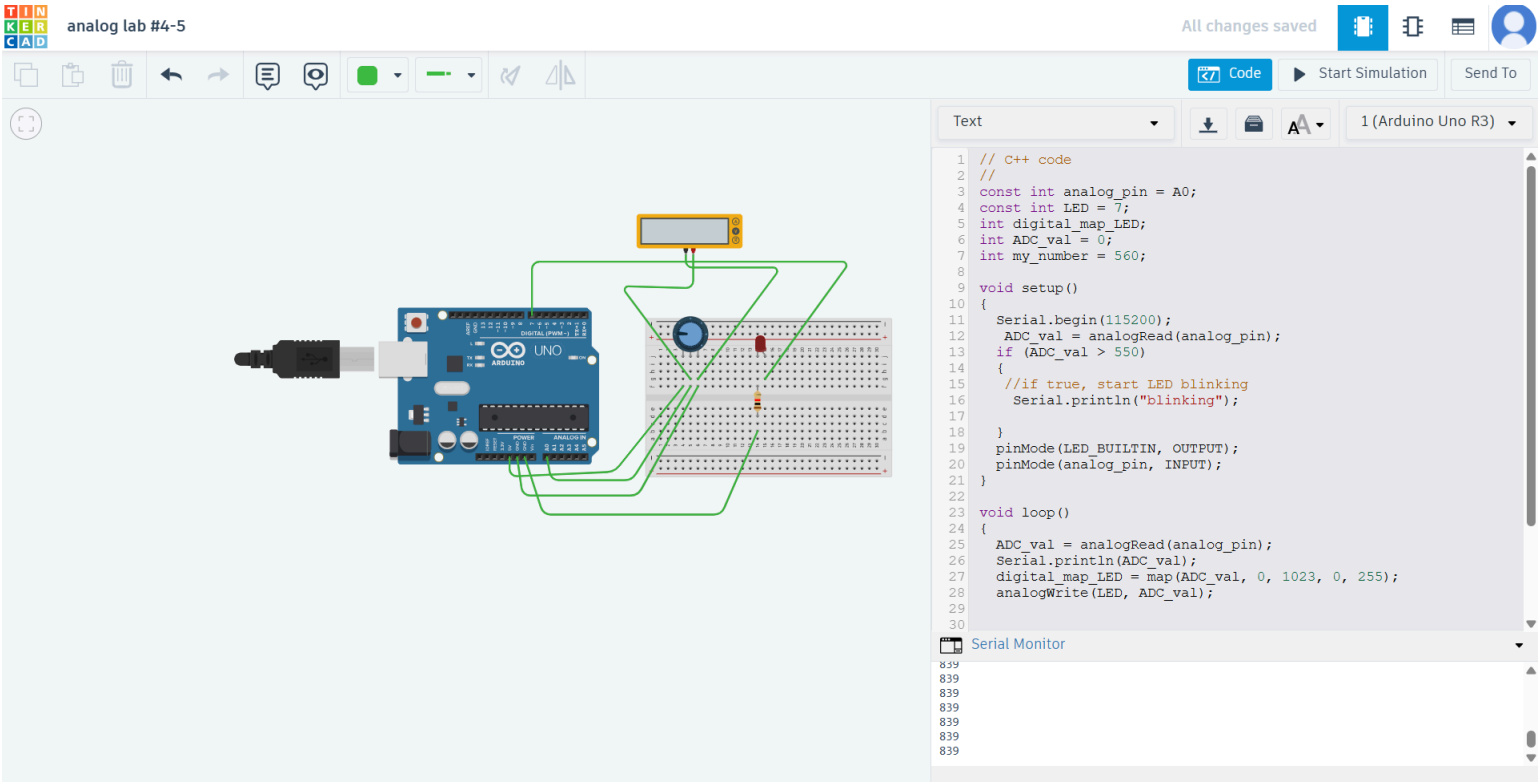
09/25/25 - *Daily Blog* - *Day 27*

Entry Ticket: *Love of Reading*
I continued to read about "Astrophysics for people in a hurry" and finished chapter 6 which was about dark energy. It first started about how dark energy is a mysterious force that took years for scientists and theorists to solve. Einstein implied using a lambda which is a greek symbol to signify dark energy. While people believed Einstein was wrong about dark energy, at the final step where the theorists solved what it was, his blunder ended up being true.

09/23/25 - *Daily Blog* - *Day 26*

Entry Ticket: *Reading/Writing/Alternate Assignment*
The reason I picked the beluga whale was because I didn't want to read about AI this time because I've only focused on AI, so I decided to read about the other option. I learned that some scientists are using an instrument to study the communication between beluga whales so they can understand what they are saying as well as trying to find the reason for the endangerment. As a result, it's fascinating how technology can help not only us humans, but also the environment. Being able to use this technology positively will result in a better world in the future. Especially for sea creatures who use echolocation to communicate.

Lab #4: https://www.tinkercad.com/things/3mXb1IBNu8Y-analog-lab-4-5



09/22/25 - ***Daily Blog*** - *Day 26*

Entry Ticket: *Reading/Writing/Alternate Assignment*

What I read about was about 3 organizations that got contracts with DARPA to mimic how cells work but creating artificial cells to do the same thing living cells work, but for machinery. With these artificial cells, they can be similar to human cells and heal themselves, such as if a piece of metal got cut, the cells can regenerate that piece that got cut, which is similar to what humans do. With this technology, having machinery repair themselves would be very beneficial especially with machinery that are used in homes. It can save money and help economically by not spending money for a piece of equipment that has to be replaced frequently. It also helps environmentally by not having to mine for materials that are needed for machinery.

Notes:

09/19/25 - ***Daily Blog*** - *Day 25*

Entry Ticket: *Reading/Writing/Alternate Assignment*

The article I picked was about the new Meta glasses that were presented yesterday by Mark Zuckerberg during a function. It is valued at $800 in the market just to be the same thing as the previous meta glasses, but with more features. They added more sensors as well as motion sensor wristbands. It doesn't really have any value besides having it for luxury and to show others you have a "high status". I'm not sure it will make the world entirely better, because the idea of this seems to work and using AI can help the blind or color blind people see color again or also take in information of your surroundings. If only it was cheaper and more reachable to the public, then it could possibly be beneficial. There are still so many ways to go in order to reach the finalized product.

Lab#1: For Loops

09/18/25 - ***Daily Blog*** - *Day 24*

Entry Ticket: *Reading/Writing/Alternate Assignment*

Sparkfun provides resources you need for projects individuals want to do. It brings your dreams to life by selling kits to customers or people intrigued to have others be interested in technology and innovation. They don't do it for the money because all the projects they've created don't have a patent on them, so they want everybody to have electronics reachable. They want to promote their products so everybody can enjoy all the resources it provides.

Lab #2: Log Some more Data - Photoresistor

Test	Brightness	Selected R2	Measured V2	Measured Vt	Derived Vp	Calculated I	Calculated Rp
1	**Covered**	**1.013kΩ**	**173.8 mV**	**9.22 V**	**9.046 V**	**172 µA**	**52.593 kΩ**
2	**Some light**	**1.013kΩ**	**382 mV**	**9.22 V**	**8.838 V**	**377 µA**	**23.443 kΩ**
3	**Room**	**1.013kΩ**	**1.821 V**	**9.22 V**	**7.399 V**	**1.798 mA**	**4.115 kΩ**
4	**Brighter**	**1.013kΩ**	**2.033 V**	**9.22 V**	**7.187 V**	**2.007 mA**	**3.581 kΩ**
5	**Full Bright**	**1.013kΩ**	**4.22 V**	**9.22 V**	**5 V**	**4.166 mA**	**1.2 kΩ**

09/17/25 - ***Daily Blog*** - *Day 23*

Entry Ticket: *Love of Reading*

I continued to read 'Astrophysics for people in a hurry' again and finished off reading about dark matter and also began to read about dark energy. For dark matter, people don't really know exactly what it really is besides it being all over space. Scientists are trying to create this dark matter but it seems very difficult right now due to not knowing how to truly make it. With dark energy, it is the concept of it being the opposite of gravity. As a result, it is very mysterious and scientists don't know much about it, but it is more stronger than gravity itself if it were to be in a tug of war. It is fascinating to know that space is so large that we haven't even determined all of it due it being cloaked in mystery.

09/16/25 - ***Daily Blog*** - *Day 22*

Robot Club - <SkillsUSA>

What Did I Working On Today (Robot Club, Other Projects):

The steps we are working on today are trying to set up the wheels with the motors. We disassembled the previous wheels which didn't seem efficient. So, we took it apart and are trying to improve the speed of the car.

Planned Task List:

- [ ] Finish setting up all 4 wheels with motors
- [ ] Apply all 6 wheels
- [ ] Set up and program the motors to work

Useful Reference Links:

None

What Did I Do Today:

This where you describe what you did, it can include any of the following (or none). It's up to you

- **Tasks Completed** - Describe the specific tasks or milestones achieved. This could include design work, coding, testing, or research activities. You can check them off from the planned list above and describe what you did here
- **Methodology:**
  - Didn't use any.
- **Challenges and Solutions:**
  - The challenge we encountered was the set up of the wheels. Everything went well, but the way we installed the wheels was the problem for the second time. This time we applied them the proper distance we wanted and applied the motors the right way, but the difference today was that the motors were not facing outside, and it needed to face the inside.
  - The solution is to rearrange the wheels and motors all over again so we can have them parallel to one another and have the motors face the inside.

    The challenge we encountered was the set up of the wheels. Everything went well, but the way we installed the wheels were the problem for the second time. This time we applied them the proper distance we wanted and applied the motors the right way, but the difference today was that the motors were not facing outside, and it needed to face the inside.

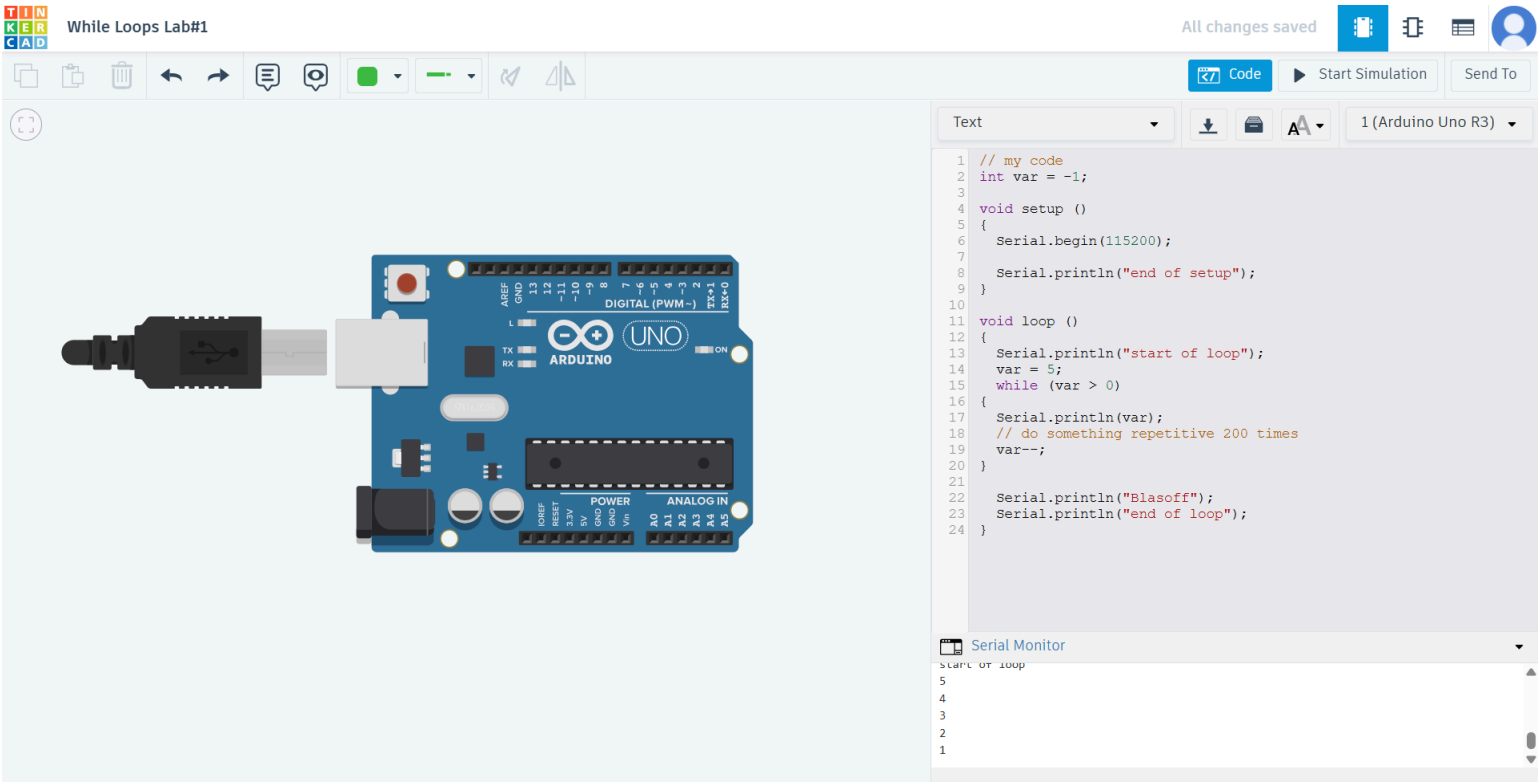
- **Observations and Insights:**
  - Findings: Share any significant observations, data, or results obtained from the day's work.
  - Analysis: Reflect on what these findings mean for the project. How do they impact the overall project goals? Are there any unexpected outcomes?
- **Learning and Reflection:**
  What went well was that we ended up fixing the problem we had last of aligning the wheels correctly and having them parallel to each other. It turned out to be exactly the same and as a result the side of the wheel couldn't be able to connect to the base of the car. As a result, next time we work on this project, I am going to have them parallel to each other where the motors face the inside and not the outside for both.
- **Udemy? Or Some Other Class?** - If you worked on a Udemy class, link to the class and tell what you learned…

Include pictures, Code or links to Code, and links to reference material. >

What Will We Work On Next Time?

- [ ] Set up wheels correctly
- [ ] Apply all wheels (correctly, again)

Lab: 1, 2, & 3
1 & 2



09/15/25 - ***Daily Blog*** - *Day 21*

Entry Ticket: *STEM Magazine*

What I read was scientists have created a coating for machines, especially ones that are built with metal, that will prolong the life of the machines due to it providing a lubricant between the two objects in a machine which will cause less friction to occur. With less friction, it will cause less wear and tear. With this innovation it will prove very beneficial because it allows machines to work for longer periods of time before it starts to corrode and rust. It can be used diversely, from small motors to large machinery such as wind turbines.

09/12/25 - ***Daily Blog*** - *Day 20*

Entry Ticket: *Reading/Writing Activity*

I read about owners of companies switching up their views of what they did, for example, an owner of a company made a tool for mountain climbing, but their product ended up hurting the environment. Instead of growing his business with this product, he felt guilty of what he was doing and took accountability of his actions. He stopped producing this product and lost millions of dollars. He later on focused his business to help the environment and took action. To have these business owners to change their minds when they are doing something morally wrong, they must take accountability for their actions and if it continues to happen people can boycott or protest to prevent them from harming the environment or society depending on what harm their product does.

09/11/25 - ***Daily Blog*** - *Day 19*

Entry Ticket: *Reading/Writing Activity*

The reading I read was about AI, especially used in schools. With AI being a method students use to write essays, it makes it an easy way to complete an assignment, but they don't write any of it. So in order to counter this and keep students from cheating, educators now have technology/AI to detect if the essay that was written was used with AI such as ChatGPT. AI isn't good or bad, it's the people who use it that allow it to be either one. It's a tool we can use that benefits us greatly, but with misuse it can also become a weapon. Overall, AI can improve our future, but also it can worsen it.

1. AI is being used for education, especially assignments students do. I chose this article because AI is always interesting, there is always something new to learn from AI due to always progressing every day. AI is interesting because it is also very beneficial, but can also impact us in a negative way such as making us lazy and so many other things.

2. This technology can help me both ways: negatively/positively. It can affect me negatively due to when I feel lazy I could use AI to do an assignment (I promise I've never done this). It can affect me positively by helping me with research or assignments I need help with. It can serve as an extra source to help me figure out problems rather than doing it for me.

3. The many downsides of AI is by cheating on assignments at school leading to creating evil robots in the future. AI as a whole isn't good or bad, it's just the users who make it seem that way. It can be a tool or a weapon, but if used as a weapon, it can drastically change the future.

4. Overall, I think AI being used in schools should still be used, but if it gets carried away, I think it should be prohibited because if people constantly use AI for negative uses, then it serves no purpose to use this tool we have.

5. If I were to tell someone about this article, AI is such a benefit for society, but people use it for the wrong things.

09/10/25 - ***Daily Blog*** - *Day 18*

The goal is to work on our lab project and try to disassemble the parts of our project (autonomous vacuum cleaner) and try to get the motor. Also try to finish the lab for potentiometer and have a summary of what I read today.

Entry Ticket: *Love of Reading #5*
I continued to read *Astrophysics for people in a hurry* by Niel DeGrasse. Chapter 5 was mostly about Dark Matter. DeGrasse states that universes that are too far fast to determine mean their matter and having calculations out of place would mean there is dark matter. Dark matter is the opposite of matter. They also used famous physicists such as Newton and Einstein to explain how gravity first started with Newton's three laws and Einstein's theory of relativity. Most of the universe consists of dark matter.

Lab: Potentiometer #2

Circuit	Measured V1	Measured V2	Measured Vt	Measured R2	Measure Vt	Calculate R2
1	**5.04 V**	**116.2 mV**	**5.17**	**285.7 Ω**	**1.083 kΩ**	
2	**4.88 V**	**282.8 mV**	**5.17**	**694 Ω**	**1.083 kΩ**	
3	**4.96V**	**195.7**	**5.17**	**541Ω**	**1.083 kΩ**	
4	**5.16V**	**340 mV**	**5.17**	**797Ω**	**1.083 kΩ**	

Robot Club - <RC CAR> Day 1

What Did I Working On Today (Robot Club, Other Projects):

<We are working on creating a usable rc car by using parts from an autonomous vacuum cleaner to create our own rc car from scratch. First we have to achieve getting a vacuum cleaner and disassemble it by getting its motors and other valuable parts that will allow our rc car to move. We can disassemble the vacuum cleaner by using a screwdriver and other tools that will help us retrieve all the parts we need from the inside. 15-30 minutes max to disassemble and retrieve parts.

Planned Task List:

- ☐ Disassemble Vacuum Cleaner
- ☐ Retrieve all valuable/needed parts
- ☐ Take all unneeded items (bristles,battery)

Useful Reference Links:

None for today

What Did I Do Today:

This where you describe what you did, it can include any of the following (or none). It's up to you

- **Tasks Completed** - Describe the specific tasks or milestones achieved. This could include design work, coding, testing, or research activities. You can check them off from the planned list above and describe what you did here
- **Methodology:**
  - Explain the methods and tools used to complete the tasks. This might include software, hardware, or specific engineering techniques.
- **Challenges and Solutions:**
  - Problems Encountered: Detail any obstacles or challenges faced during the day.
  - Troubleshooting: Describe the steps taken to resolve these issues. If the problem remains unsolved, outline potential solutions or next steps for further investigation.
- **Observations and Insights:**
  - Findings: Share any significant observations, data, or results obtained from the day's work.
  - Analysis: Reflect on what these findings mean for the project. How do they impact the overall project goals? Are there any unexpected outcomes?
- **Learning and Reflection:**
  - Skills and Knowledge Gained: Document any new skills acquired or knowledge gained.
  - Reflection: Reflect on the day's work. What went well? What could be improved? How does today's progress align with the overall project timeline?
- **Udemy? Or Some Other Class?** - If you worked on a Udemy class, link to the class and tell what you learned…

Include pictures, Code or links to Code, and links to reference material. >

What Will We Work On Next Time?

- ☐ (fill this out at the end of class/open lab activity time)
- ☐ List your next 2-5 steps or activities.
- ☐ This is key!!! - You need to be thinking about this project as a whole, and break it down into
- ☐ small tasks you can complete in 30-60 min

☐ Be sure these items get on your Big list

09/9/25 - *Daily Blog* - *Day 17*

Entry Ticket: Work on Udemy

Lab: Potentiometer #1

Circuit	Measured R1	Measured R2	Measured Rt
1	451 Ω	678 Ω	**1.086 kΩ**
2	811 Ω	316.6 Ω	**1.086** kΩ
3	700 Ω	432 Ω	**1.086** kΩ
4	1.020 kΩ	99.2 Ω	**1.086** kΩ

09/5/25 - *Daily Blog* - *Day 16*

Entry Ticket:
https://www.cnet.com/tech/services-and-software/features/no-your-iphone-isnt-listening-to-you-heres-whats-really-happening/

The article talks about if phones listen to you even when it is turned off. While many believe that this is true, the writer disagrees and says how your phone knows what you are trying to do is because it takes in all the data collected from apps that were used such as instagram or google. While it may not be fully true because in my own experience, sometimes it knows exactly what I'm going to type which doesn't correlate to what I was doing previously. As a result, I believe that they are still on because we are tracked where we are with our phones due to the satellites and the microphone feature it has which can allow the phone to listen to what we are saying which is an invasion of privacy.

09/4/25 - *Daily Blog* - *Day 15*

Entry Ticket: *Einstein hated entanglement – and five other quantum myths*
There are many myths many individuals believe that are true, while the scientists try to not disprove them, but correct them about the myths. For example, people believe that quantum physics can result in time travel. While it was not disproven that quantum physics could allow it to happen yet, currently we can't time travel. The reason I chose this article is because it seemed intriguing because once I saw the words 'quantum physics' it reminded me of the movie Ant-Man, and how Hank Pym used quantum mechanics. Especially for time travel in the Avengers movie.

09/3/25 - *Daily Blog* - *Day 14*

Entry Ticket: *Love of Reading #4*
As a continuation from my previous 'Love of Reading', I read *Astrophysics for people in a hurry,* chapter 4. In this chapter it was talking about the universe and how it is "empty". Before the time of technology, people used telescopes and other ancient

machinery which allowed them to see in space. While the bright lights in the sky represented other galaxies and stars, other spherical masses were ignored such as dwarf galaxies. Galaxies who once glowed bright, lost their gleaming light. In space a lot of places are ignored because it is hard to detect these masses due to no light shining any more and losing its star. As a result, an abundance of dwarf planets, galaxies, and stars are being discovered.

09/2/25 - ***Daily Blog -*** *Day 13*

Entry Ticket:

A new form of technology, quantum AI is now being able to predict the weather more accurately than before with more descriptive information allowing them to gather all the data they have recorded in the past and use it by determining how the weather will be from weeks or months from now. NASA has teamed up with Planette to use Qubitcast. It allows it to accurately depict the weather from 10 days from now. With this AI being able to predict weather conditions, in the future it would be able to determine the weather changes and disasters weeks or months before they even form.

Class Notes: Switches

There are many distinct types of switches that can do more than turn power on and off. Switches can change the flow of current passing through a circuit and open and close a circuit. They are maintained and momentary switches are such as maintained would be on/off light switches. Momentary switches are always on as long as they have physical contact. All switches should have two terminals, one for the current to come in and another for it to come out. Depending on the amount of poles there are on the switch, it allows the switch to control that same amount of circuits as the poles.

Voltage Divider:

Measured R1	Measured R2	Measured Vt	Measure V (R2)
5.88 kΩ	**10MΩ**	**6.24 V**	**51.8 mV**

08/28/25 - ***Daily Blog -*** *Day 12*

Entry Ticket:

I chose to read about solar energy being the fastest growing electricity source in the nation. It has surpassed other renewable energy electricity sources such as biomass and hydroelectric. By showing statistics of 2025 and previous years, it shows an increase of how much the nation is using solar energy. With solar energy being a renewable energy source the only downside is it only works if the sun is up. The benefits is it causes less pollution compared to other electrical sources such as coal and natural gas. It is cheap besides the only part being expensive would be to buy the solar panels. It is also easily accessible. If in the future, solar energy becomes the new energy source for the world it would benefit the world, especially global warming and having access to energy everywhere. The only negative of solar energy is if the sun is not present then it can't produce any solar energy.

08/27/25 - ***Daily Blog -*** *Day 11*

Entry Ticket: *Love Of Reading #3*

The book I read was Neil DeGrasse, Astrophysics for people in a hurry. I continued to read the same book and read chapter 3. What I read was mostly about CMB which stands for (Cosmic Microwave Background) and other space terms such as matter and dark matter which matter is anything that takes up space and interacts with light, and dark matter the opposite. It also talks about many different laws used such as Einstein's and other well known physicists.

https://www.electronics-tutorials.ws/resistor/res_1.html Notes:
There are multiple types of resistors that are used. Resistors regulate the flow of electrons (current) passing through. They can also be connected in series or parallel patterns. Resistors are passive dividers because they don't contain any power within. These resistors tend to have bands that represent how much energy it can resist. There are carbon compositor resistors made of carbon dust and require low wattage values, wire-wound resistors which are metallic bodies for heatsink mounting which have very high wattage, semiconductor resistors are high frequency and deal with more thin film technology, and film or cermet resistors which also have low wattage values.

https://www.electronics-tutorials.ws/resistor/res_2.html Notes:
Resistors are used in both electrical and electronic circuits to control the flow of current. Resistors have a color system in order to show how much resistance it has and the notation for resistance is Ohms (Ω). You can determine the resistance, tolerance and voltage on the resistor due to the stands that are imprinted on it. The Resistance Color Code is the resistant band which is a system of identification. It comes in many different colors and up to 6 bands at most. The first 3 bands are the first 3 digits of the resistor. The 4th band would be the multiplier which gets multiplied by 10 every time the band goes higher in the spectrum. The 5th band is the Tolerance which is usually gold or silver. The last and 6th band is the temperature.

Class Notes: Series Circuits
Formula (Parallel?) - R(total) = R1 + R2 + R3….
Formula (Series) → 1/Rtotal =

Circuit	Measured R1	Measured R2	Measured Rt	Calc R1 + R2	Measured Vt	Measured V1	Measured V2	Calc Current	Measured Current
1 330 Ω	326.6Ω	326.1 Ω	652 Ω	652.7 Ω	9.21 V	4.6 V	4.61 V	14.1 mA	13.92 mA
2 3.6k Ω	4.04k Ω	3.83 k Ω	7.88k Ω	7.87k Ω	9.22 V	4.73 V	4.49 V	1.17 mA	1.16 mA
3 2.2 kΩ	2.175 kΩ		2.175k Ω		9.22 V	9.22 V		4.24 mA	4.21 mA
4 680 Ω	668Ω		668 Ω		9.02 V	9.02 V		13.5 mA	13.29 mA

08/26/25 - *Daily Blog - Day 10*

Entry Ticket:

08/25/25 - ***Daily Blog -*** *Day 9*

Entry Ticket:

1. The technology I would use to limit the population of the locusts is drones to kill the locusts which could shoot down the locusts. I'd say it would require less energy than if it's done with humans. Also with AI being used it could do much more than what a single person can do. With its precision it will allow many locusts to fall.

2. The amount of Locusts that would need to be killed in an hour to make an impact would be 100,000 minimum. I'd say this number would be reasonable because it seems like a probable amount. With hundreds of millions of locusts being in the area, it will diminish the population somewhat.

3. I'd say it would require more than the current amount being used because it would need to produce the drones and the technology being used. It would cost more money to produce than what fertilizers would.

08/22/25 - ***Daily Blog -*** *Day 8*

Entry Ticket:

1. AI is being misunderstood as taking over the world. While people think world domination would occur as AI progresses, it could also help us progress scientifically and industrially. AI is now being implemented in many places technological wise. People are afraid that this tool will become superior and cause negative outcomes such as taking over jobs.

2. This technology will help me mostly with helping solve problems I need whether it is for homework or other things I need help on. It can be useful because it is a tool made for us to help us whether its for questions for school to even work. It is very diverse and useful whether people disagree or not. AI is the key to our future.

3. Negative consequences to using AI is if people use it for bad things, it will cause problems as well as if AI receives its own "consciousness" which will result in unimaginable consequences. It may also take peoples jobs like cashiers which will cause a massive unemployment rate.

4. Overall, depending on the way AI goes, it will vary. I think AI will definitely help us in the future. It is the key to our future and hopefully if all goes well it will be bright.

5. Whether bad or good, AI will become the future.

08/21/25 - ***Daily Blog -*** *Day 7*

Entry Ticket: *Sign up for an AI newsletter and then pick an Article and Write about it*

1. Elon Musk is creating along with Samsung a chip that will innovate and improve their Tesla's. By spending $16.5 billion to make these chips it seems like it will be very expensive due to the fact that apparently Musk is trying to add more money to this project. The same goes for China, due to the fact that they are trying to dominate the technological world and surpass the U.S. It seemed interesting because I haven't heard of Elon Musk since contributing to Trump's presidency. I chose it because hearing two big names such as Samsung and Elon Musk, it must be big news.

2. People who are into Tesla's must be intrigued due to innovating new technology for these cars. I don't think it will really benefit much because I think there will be more wrong than right. Wrong, with more technology we need so many materials like aluminum which can cause pollution to our environment and release gases into our atmosphere which will increase global warming.

3. With this technology I think it will get us closer to autonomous cars. For the technology world I think it would be great. This also shows Musk is now using AI to create their own technology instead of relying on others.

4. Overall, I think this innovation will be especially for Musk and his business, but also once its complete it will be as well for their customers which will allow Musk to gain even more money.

08/20/25 - ***Daily Blog*** - *Day 6*

Entry Ticket: Love of Reading: Reading/Writing Assignment
I read the same book I read the last time, Astrophysics for people in a hurry by Niel De Grasse. Continuing what I previously read, I learned more about how Newton's law was and is still relevant today especially for space. It also talked about the discovery of new elements and also talked about dark matter. It is so interesting to read and learn about how much space is still unexplored and how there are still discoveries to be found in our universe.

R #	Resistor Number Value (from Colors)	Measured Ω	Ω Error In Spec?	Measured Volts	Calculated I	Measured I
#0	Red, Red, Brown, Gold = 220 Ω 5%	217 Ω	3 Ω	5.16 V	23.8 mA	23.9 mA
#1	Brown, Black, Orange, Gold 10k Ω, 5%	9.8 kΩ	200 Ω	5.17 V	0.528 mA	0.52 mA
#2	Brown, Green, Brown, Gold 150 Ω 5%	148.5 Ω	1.5 Ω	5.15 V	34.7 mA	33.6 mA
#3	Blue, Grey, Brown, Gold 680 Ω 5%	670 Ω	10 Ω	5.17 V	7.72 mA	7.6 mA
#4	Yellow ,Brown, Brown, Gold 410 Ω 5%	465 Ω	55 Ω	5.17 V	11.1 mA	10.9
#5	Green brown red Gold 5.1 kΩ	5.06 kΩ	40 Ω	5.17V	1.022 mA	1.01

08/19/25 - ***Daily Blog*** - *Day 5*

Entry Ticket: Table

R #	Resistor Number Value (from Colors)	Measured Ω	Ω Error In Spec?
#0	Red, Red, Brown, Gold =	217 Ω	3 Ω

	220 Ω 5%		
#1	Brown, Green, Black, Black, Brown 150 Ω 100ppm	150.3-150.7	0.3-0.7 Ω
#2	Orange, Orange, Brown 330 Ω 5%	326.6-326.9	3.4-3.1 Ω
#3	Red, Red, Red. Gold 2.2 kΩ 5%	2.175 kΩ	25 Ω
#4	Red, Black, Red, Gold 2Ω 5%	2.055 kΩ	55Ω
#5	Orange, Blue, Red, Gold, Yellow 3.6 kΩ 5% 25 ppm	4.04 kΩ	440 Ω

Reading/Writing Activity: AI - How I gave a paralyzed woman her voice back

1. Ann, a victim of brain stem stroke, now has the ability to speak once again due to AI technology allowing her to speak once again. Due to the stroke, she became immobilized and couldn't speak or move. It restricted all movements, but after years she gained some, such as facial and neck movements which allowed her to have emotion. With installing a chip inside her brain, it allowed her to speak once again.

2. This technology is very fascinating due to the fact it allows people who are immobilized and lose their speech, they have another change to allow them to gain it partially back. Its so interesting to know how AI and technology can also be applied to reverse some effects from diseases that seemed to be irreversible.

3. This technology could affect me personally by possibly being able to help me remember memories I've lost. It could be very useful in the medical field and also for people who have lost their ability of speech and movements. Especially people who have lost their movements, but with AI it will definitely be a major improvement.

4. I think with this technology it will be able to upgrade and allow people to also control their body. With the AI allowing people to recover speech currently, with more innovation and time, hopefully it will allow others to also recover their body movements which will allow them to do physical activity such as walking.

5. Overall, this type of technology is a breakthrough due to technology advancing at such a high rate that new types of technology will be available for different problems of all kinds in near future.

08/18/25 - ***Daily Blog*** - *Day 4*

Entry Ticket:

Reading/Writing Activity: Gravity - the world's fastest jet suit

The reason why I chose this magazine is because when I saw the word jet suit, it seemed so fascinating. A jet suit reminds me of my favorite superhero: Iron man. It is so interesting to know that an actual suit can make people "fly" for a certain amount of time. Flight is what many people would think would be improbable.

This topic or innovation would serve like a hobby or a toy in some way due to being able to use this mechanism to travel from place to place and also sight seeing around the world. I would say it would be useful not really for daily convenience, but more for

entertainment. Many people would like to have the experience of flying one day and soaring into the skies. It would be beneficial for military uses and other uses such as helping people from big heights.

The only setback that I think this mechanism would cause is money. Making these jet suits must cost an abundance of money which can't really be funded unless multiple people such as millionaires contribute. Besides that the only damage in the environment would be sound pollution.

Vocab:

Allure: the quality of being powerfully and mysteriously attractive or fascinating

Momentous: (of a design, event, or change) of great importance or significance, especially in its bearing on the future

Class Notes: DMM Essential Questions: Why is it important to measure electrical values, instead of relying only on theoretical calculations?

How does using a DMM help us understand and troubleshoot real-world systems?

What are the risks of improper use of a DMM, and how can they be prevented?

Digital Multimeter (DMM): A **digital multimeter** is a test tool used to measure two or more electrical values–principally voltage, current, and resistance.

08/15/25 - ***Daily Blog -*** *Day 3*

Goals for Today: Finish on the printers and

08/14/25 - ***Daily Blog -*** *Day 2*

My goals would be to able to work on the printer and work on finishing all my assignments

Entry Ticket:
Vacuuming & clean desk space (clean the classroom):
Used a vacuum cleaner to clean my surroundings and picking up any trash to be thrown away

Class Notes:
Georg Simon Ohm: (Class)

- V (on top) I and R on bottom' I x R = V; V/R = I; V/I = R
- Key Words: Voltage, Current, Resistance, and Ohm (Omega symbol).
- The higher the tire at the pipe, the higher the voltage.
- Voltage is the pressure pushing electron
- Ohm is what is slowing down or allowing electrons to flow (resisting/restricting/flowing)
- I (Current (amp/Amperes) = V (Voltage/Volts) / R (Resistance/Ohms)
- 1 ampere = 1 coulomb per second)
- Coulombs are how many electrons will flow past a point in 1 second. (Ex: If flowing at 1 amp = 1 coulombs)
- Chart:

Quantity	Symbol	Unit of Measurement	Unit Abbreviation

Current	I	Ampere (“Amp”)	A
Voltage	E or V	Volt	V
Resistance	R	Ohm	Ω

- **Voltage:** It is the push or pressure behind current flow through a circuit and is measured in (V) Volts. Or the potential; The distance between 2 points
- **Resistance:** Its futile; resisting the flow of current
- **Current:** How many electrons are flowing through
- 0.3 A or 30 mA would be most reasonable for an LED
- Current is inversely proportional to resistance
- IF resistance increases,

08/13/25 - *Daily Blog* - Love of Reading & Engineering Notebook Introduction:

My goals would be to finish all my assignments before the class ends and be able to work on disassembling the printer again. Also I would like to know about Ohm's law lesson today.

Entry Ticket:
Love of Reading:
Read a book for 20 minutes, *Astrophysics for people in a hurry* by Neil De Grasse. I chose this book because I found it interesting due to the title and also talking about space. It first began with talking about the formation of the universe and Earth. Overall, the first few pages of the book described different particles in the universe such as protons and protons.

Class Notes:
George Simon Ohm: (Self-Study)

- Famous for creating Ohm’s Law; describes the relationship between voltage, current and resistance in an electrical circuit.
- He was a German Physicist most well known for Ohm's Law.
- His law states, "that the current flow through a conductor is directly proportional to the potential difference (voltage) and inversely proportional to the resistance."
- Ohm was also a professor of mathematics at a university in Germany.
- He had six other siblings, but only three including Ohm survived and tragedy struck again by his mother dying when he was a very young age.
- Along with his younger brother they both became mathematicians.

08/14/25 - *Daily Blog - Day 2*

My goals would be to

Entry Ticket:
Vacuuming & clean desk space (clean the classroom):