



NEWSLETTER

INDUSTRIAL REVOLUTION

Shemrock Floret School, Dinhata

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Welcome to our newsletter on the history of Industrial revolution. From the evolution of Industry 1.0 to the future aspects that we will see in the upcoming Industry 5.0. We will take you on a journey through the fascinating and interesting evolution of machines that started from a basic invention of engines that worked on steam power to the era of fully automated self-capable smart robots.



WHAT IS AN INDUSTRY?

An industry is a group of companies that are related based on their primary business activities. In modern economies, there are dozens of industry classifications. Industry classifications are typically grouped into larger categories called sectors. Individual companies are generally classified into an industry based on their largest sources of revenue. For example, while an automobile manufacturer might have a financing division that contributes 10% to the firm's overall revenues the company would be classified in the automaker industry by most classification systems.



WHAT IS INDUSTRIAL REVOLUTION

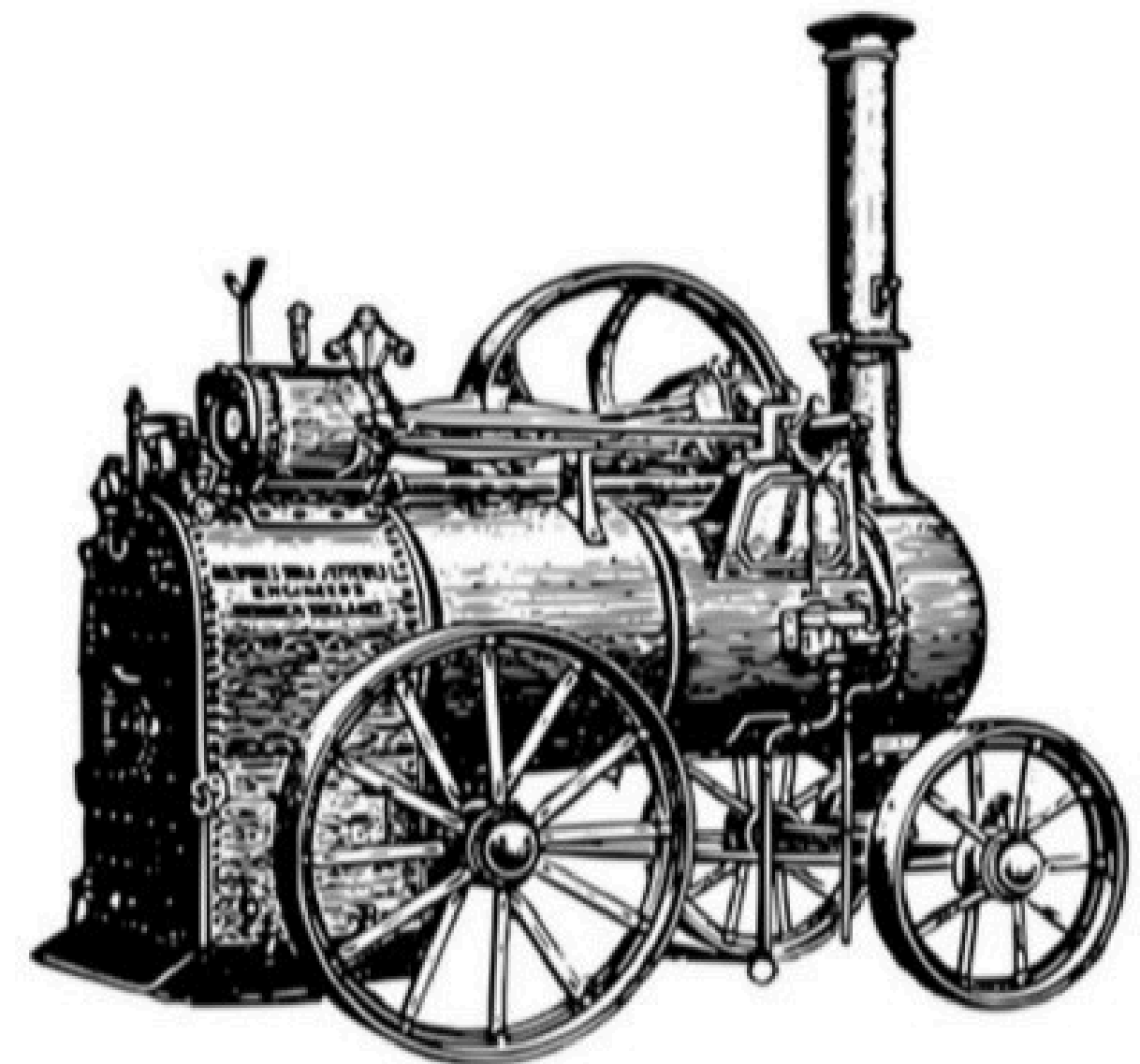
The Industrial Revolution was the transition from creating goods by hand to machines to reduce human intervention and automate production. It was started in the 18th century, in Great Britain, where the pace of change appeared to speed up with the production of the first steam engine.



HISTORY OF INDUSTRIAL REVOLUTION

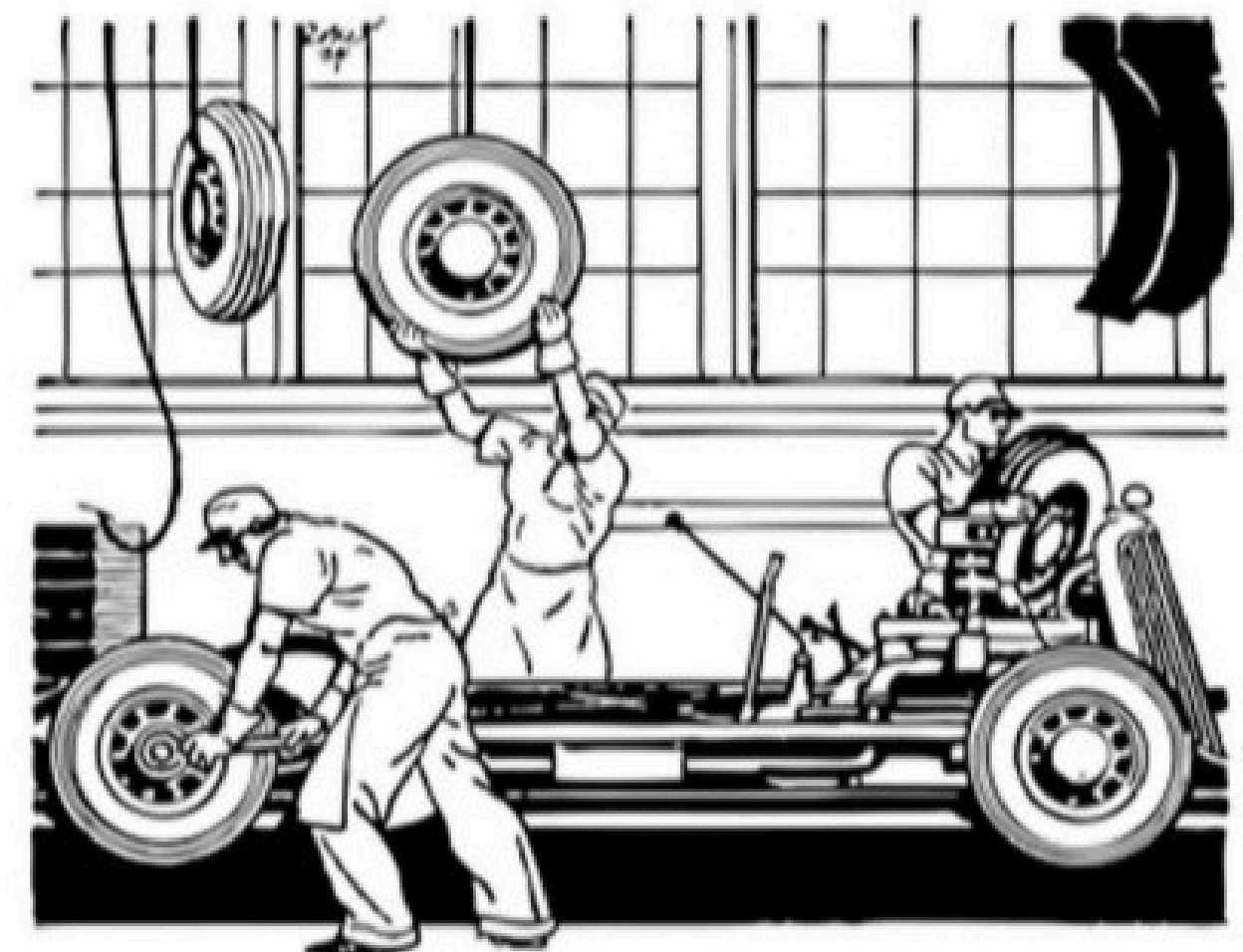
1.0 INDUSTRY

- Began in the 18th Century with the first production of Steam power and mechanization of production.
- Now, instead of using muscles and manpower for producing power for weaving looms in factories, steam engines could be used for power.
- The first Steam powered locomotive was introduced which resulted in the revolution in the locomotive era.



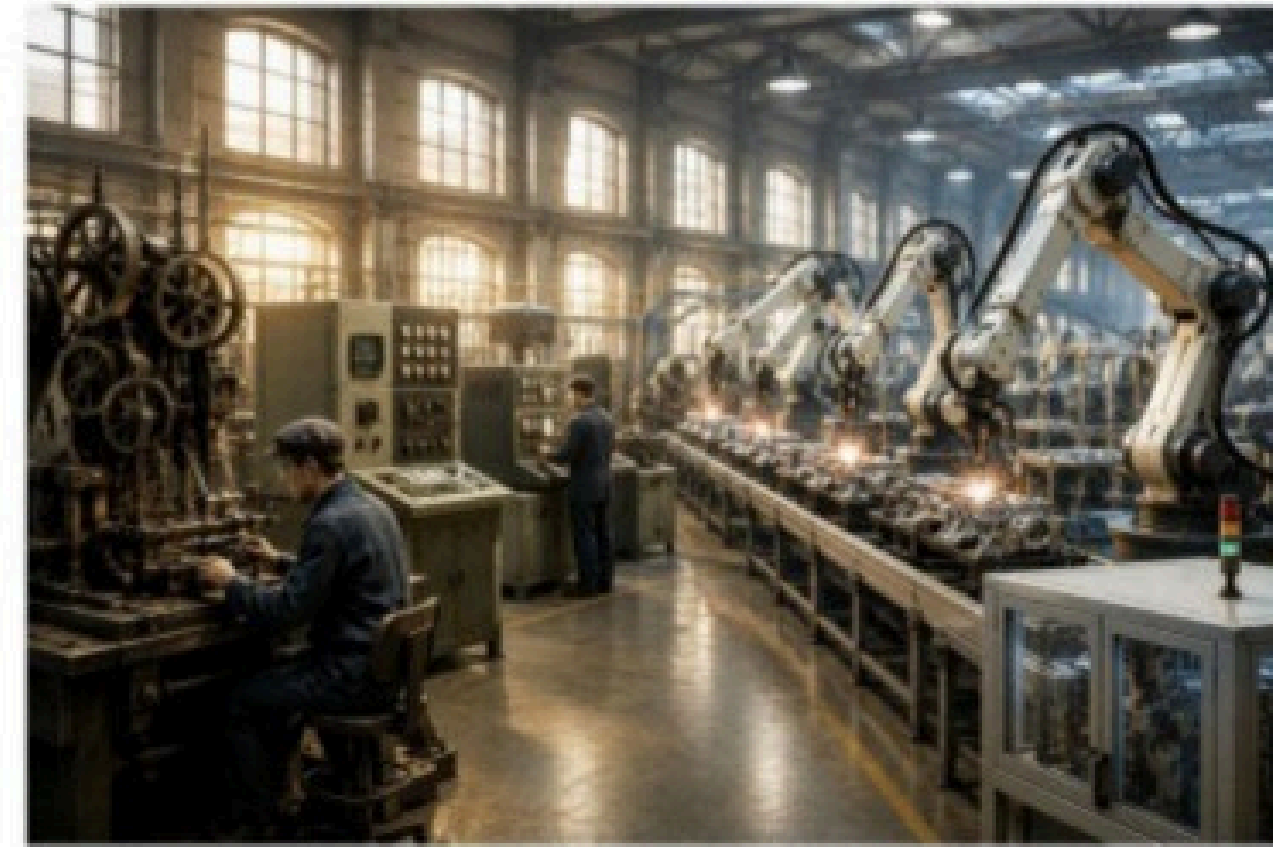
2.0 INDUSTRY

- Began in the 19th Century with the discovery of electricity and assembly-line production.
- Henry Ford (1863-1947) took the idea of mass production from a slaughterhouse in Chicago where he saw how the pigs were hanged on hooks and were slaughtered in a line by the butcher, He used the same concept in the production of automobiles which resulted in becoming significantly faster and at a lower cost.



3.0 INDUSTRY

- Began in the 20th Century.
- Partial automation using memory-programmable controllers and computers started being used in Industrial production.
- We were now able to automate the entire production process that resulted in less human intervention and assistance.



4.0 INDUSTRY

- We are currently implementing Industry 4.0 which is the development of Industry 3.0 to the next level.
- Industry 4.0 is revolutionizing the way companies manufacture, improve, and distribute their products in a smarter way.
- Industries are integrating new technologies, including the Internet of Things (IoT), cloud computing and analytics, Artificial Intelligence (AI) and machine learning into their production facilities and throughout their operations.
- Smart Industries and factories are brought into use. The industrial machines that are used in these factories can predict failures in advance and can take predictive measures for the same, they also include self-organized logistics which allow the machines to communicate with each other and share information.



HOW HAS THE REVOLUTION BENEFITED US?

- Mass production of industry-level appliances has become way simpler in earlier times.
- Less human intervention is required in any of the production factories as the machines are self capable to run day-to-day tasks.

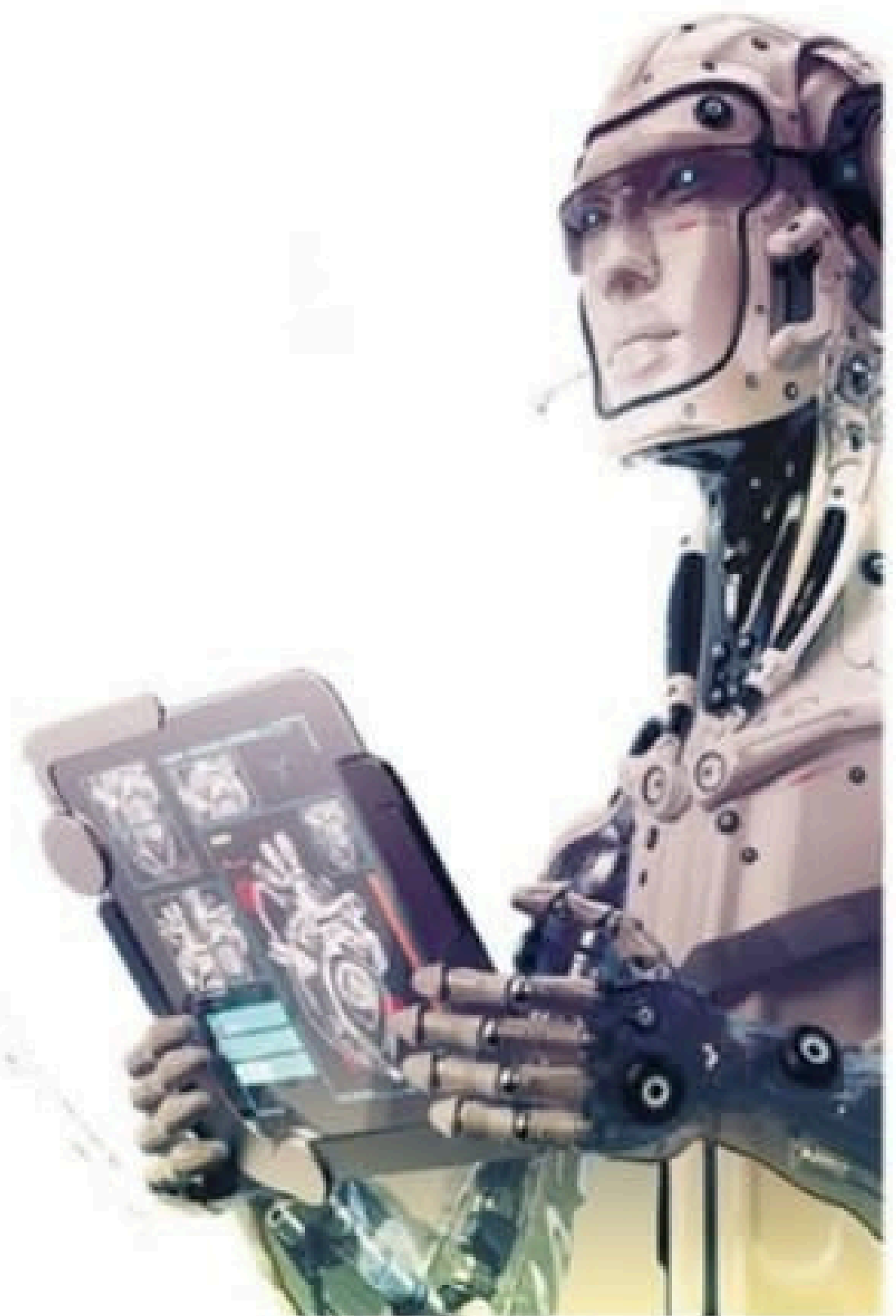


- Less human labour is required to keep a check on the machine's health and age, the machine uses predictive and prescriptive analysis to predict upcoming failures and handle them through pre-fitted smart logistics.
- The process is now much faster, more reliable, and safer as there is no human error that can intervene in the production. The machines work on a pre-set algorithm thus reducing any chances of errors during mass production.



WHAT WILL BE THE FUTURE OF INDUSTRY 4.0 I.E., INDUSTRY 5.0?

- The future of Industry 4.0 will focus on fighting two main concerns - Fighting Global warming and conserving natural resources.
- The Industrial Revolutions of the past brought about the advancements that now allow us to live healthier, longer, and more comfortable lives. But with machines taking over human roles at a rapid pace, previous technological advances have created a fear that humans would be rendered obsolete.
- Sustainability is about elevating human life on this planet and viewing these advances through the lens of how they can help us work more efficiently, protect the climate and support modern life continuously raising the standard of living for those in need.
- Industry 5.0 is human-centric evolution and will focus on man and machines working together. With the use of collaborative robots, workers are free to deliver value added tasks to customers.



ABOUT ROBOTICS LAB

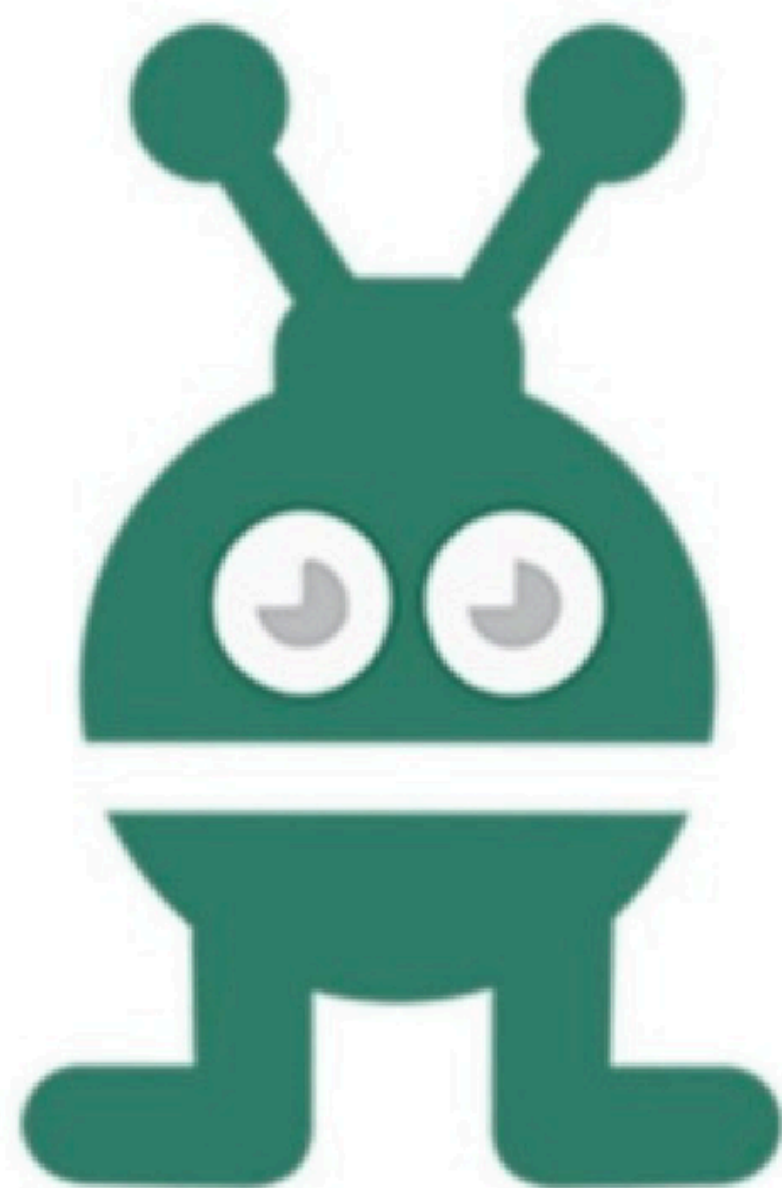


The Robotics Lab is a special workspace where students can learn, try new things, and turn their ideas into real working models. It is built to spark creativity and go beyond just memorizing lessons - encouraging students to explore modern skills like designing, thinking logically, learning through experience, and understanding artificial intelligence.

The lab is packed with advanced tools and equipment such as 3D printers, robotics kits, and electronic parts, giving students a practical, hands-on way to learn science, technology, engineering, and math (STEM). The main aim is to help students develop strong problem-solving and critical thinking skills from a young age. By supporting experimentation and new ideas, the lab hopes to inspire the next generation of creators and entrepreneurs, getting them ready for future opportunities and helping push India's technology and innovation forward.

- Basic Car Model using Discovery Motion Kit: Students will understand how mechanical components and gears work together to transfer motion and enable a vehicle model to move.
- LED Glowing Circuit using Smart Circuit Kit: Students will understand the basic concept of an electrical circuit, including current flow, polarity, and how a complete circuit enables an LED to glow.
- Swing Model using Discovery Motion Kit: Students will understand the basic principles of mechanical motion by exploring how force, movement, and structural components work together to create a swinging motion.
- Smart Doorbell using Basic Electronics Kit: Students will understand how a switch can be used as an input to complete an electrical circuit and activate a buzzer as an output in a practical doorbell system.





THANK YOU



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