Dear parents,

Welcome to the Science and Technology Summer Camp 2023!

During the camp your child will have opportunities to explore a broad range of Science and Technology related activities and projects. Each will involve your child directly through hands-on experiences. Technology lab staff, university faculty and other volunteers will oversee and assist as your child requests/needs. Each day, campers will participate in 2 -3 activities while also experiences a few ongoing projects such as Vermicomposting and Terrarium which require several shorter sessions.

We encourage you to ask your child, every day to talk to you about their camp activities. We are confident that ETL Summer Camp will provide enjoyable learning experiences that will stimulate your child's curiosity and will influence future interests in science.

Thanks for your participation,

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ETL SUMMER CAMP 2023

ACTIVITIES AND PROJECTS

Vermicomposting

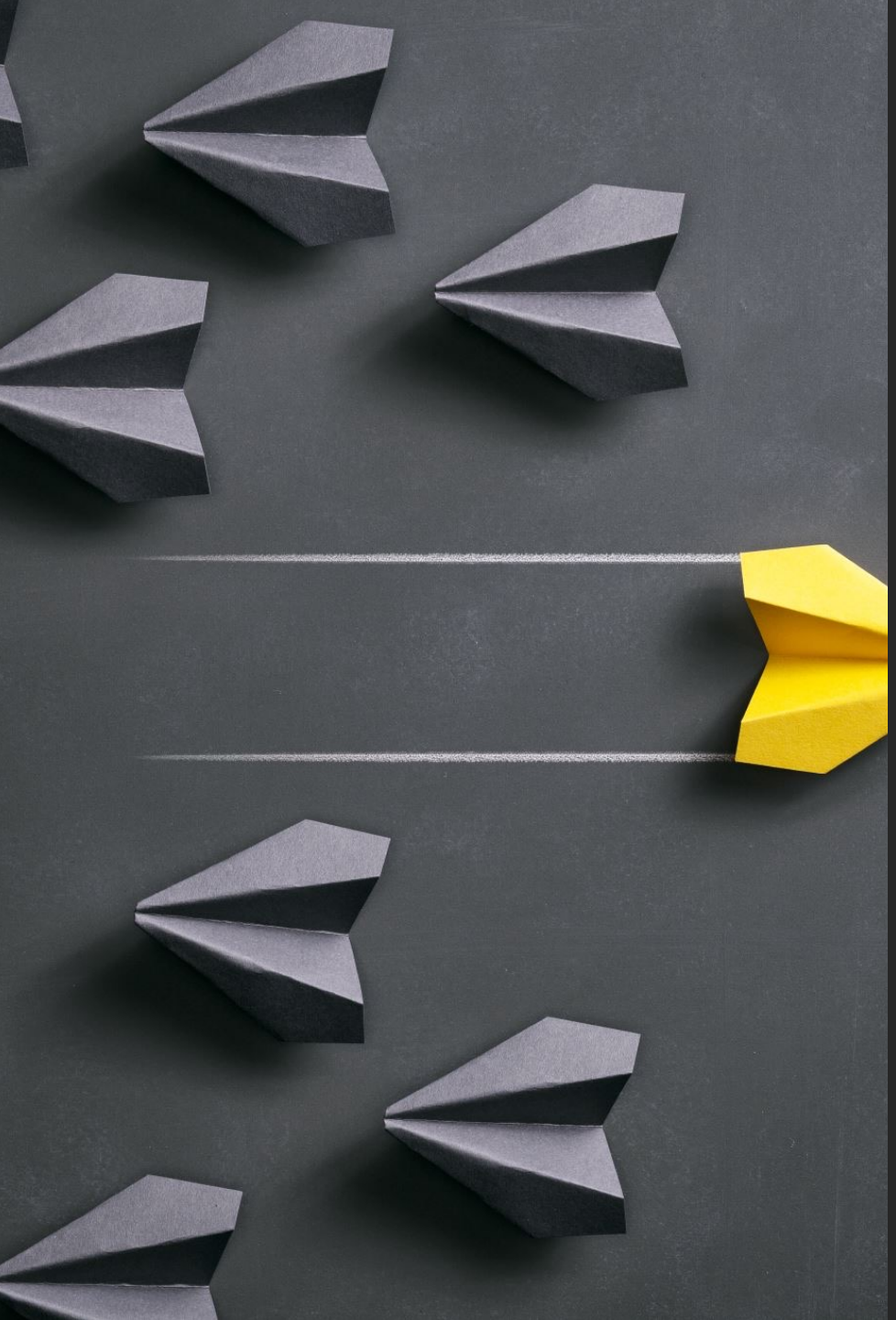
A highlight of the summer camp through the years, Vermicomposting is an engaging and educational process that allows students to transform food scraps into nutrient-rich compost with the assistance of worms! By setting up a worm bin, students can observe red worms diligently consuming organic waste such as fruit peels and vegetable scraps. As the worms break down the waste, they produce valuable castings that serve as a potent fertilizer for plants. Students actively participate by feeding the worms, maintaining the bin's moisture levels, and witnessing the remarkable transformation. Vermicomposting not only teaches students about recycling and sustainability but also provides a hands-on opportunity to appreciate the vital role of worms in nature's recycling system.

Hydroponics

Hydroponics describes the practice of growing plants in a system where water and other essential nutrients are used instead of naturally occurring soil. ETL staff have built from scratch 6 different models of these systems for the children to work with, during which they will also be taught to piece the hydroponic system together!

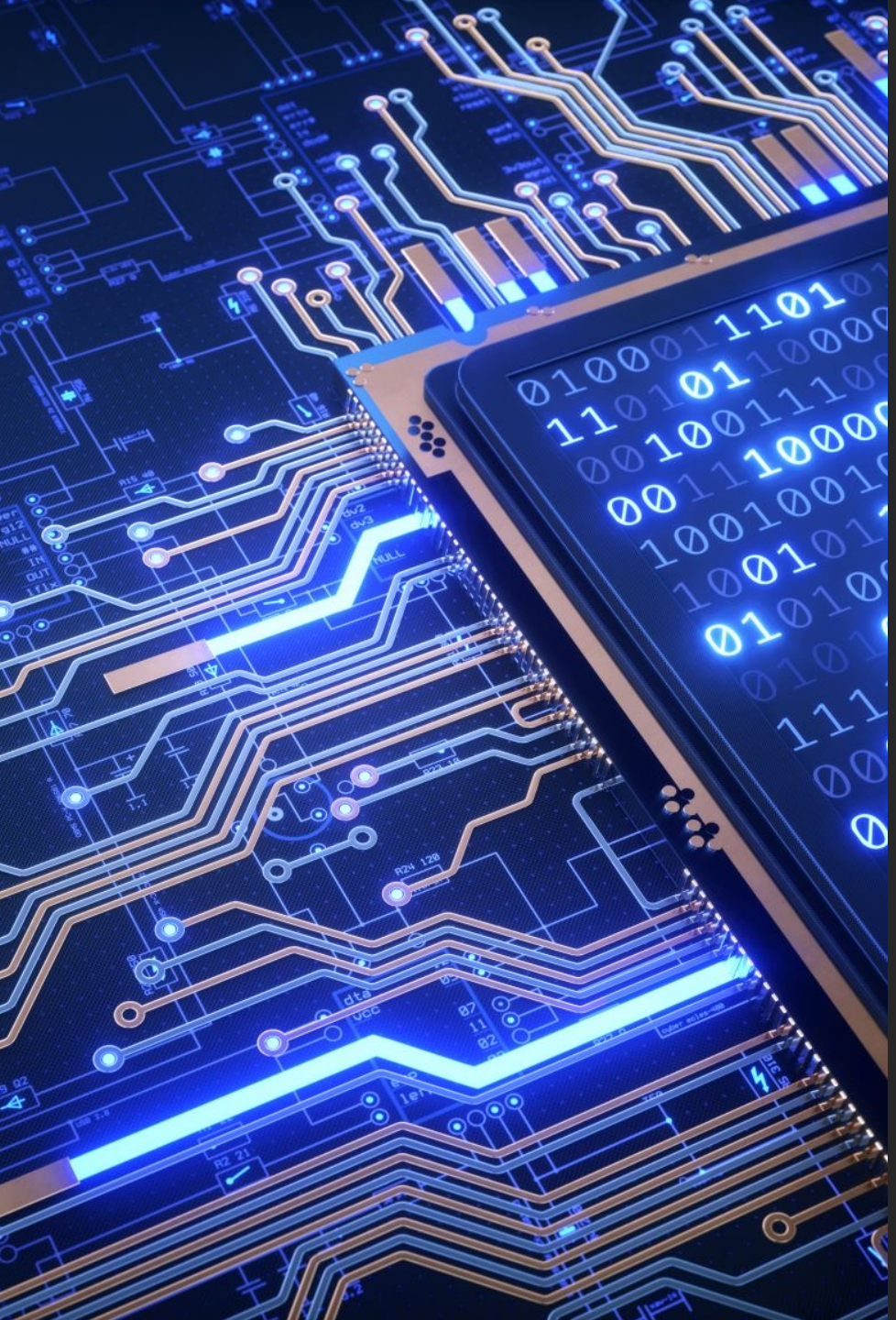
3D Printing - TinkerCAD

3D printing is an exciting technology that allows students to bring their imaginations to life! With a 3D printer, students can design and create three-dimensional objects layer by layer using computer software. This hands-on experience enables them to turn their ideas into tangible objects, fostering creativity and problem-solving skills. From designing unique toys and prototypes to creating models for science projects, 3D printing opens up a world of possibilities. It also introduces students to concepts such as CAD (Computer-Aided Design), measurements, and material properties. By exploring the realm of 3D printing, students gain valuable skills in design thinking and gain a deeper understanding of the manufacturing process in a fun and interactive way.



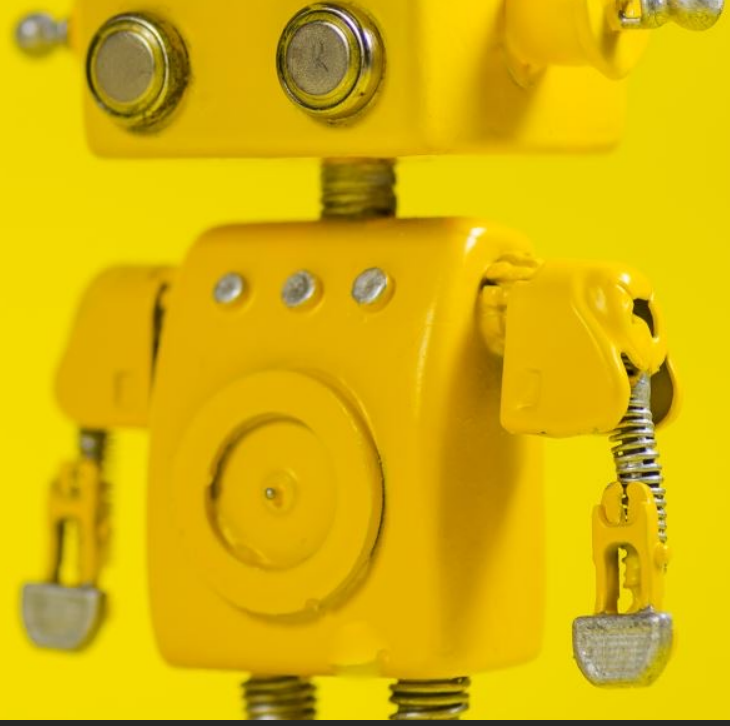
Ozobots

Ozobots are captivating robots that offer students an exciting introduction to the world of coding and robotics! These small, programmable bots can follow lines and respond to color codes, allowing students to create their own paths and commands. With Ozobots, students can explore the basics of coding through a visual programming language or even draw lines and color codes on paper to guide the robots. This hands-on experience encourages critical thinking, problem-solving, and logical reasoning. Students can design intricate mazes, challenges, and interactive games for the Ozobots to navigate, fostering creativity and computational thinking skills. Ozobots provide an engaging platform for students to explore coding concepts and robotics in a fun and interactive way.



Scratch Circuits

Scratch Circuits is an exciting extension of the popular programming language Scratch, where students can explore the world of electronics and circuitry. It enables students to combine their coding skills with physical components to create interactive projects. With Scratch Circuits, students can connect and control real-world devices such as LEDs, sensors, and motors using simple block-based coding. They can design and program their own electronic creations, from light-up artworks to interactive games and even robots. This hands-on approach to learning coding and electronics fosters creativity, problem-solving, and critical thinking skills. Scratch Circuits provides an accessible and engaging platform for students to explore the exciting intersection of coding and physical computing.

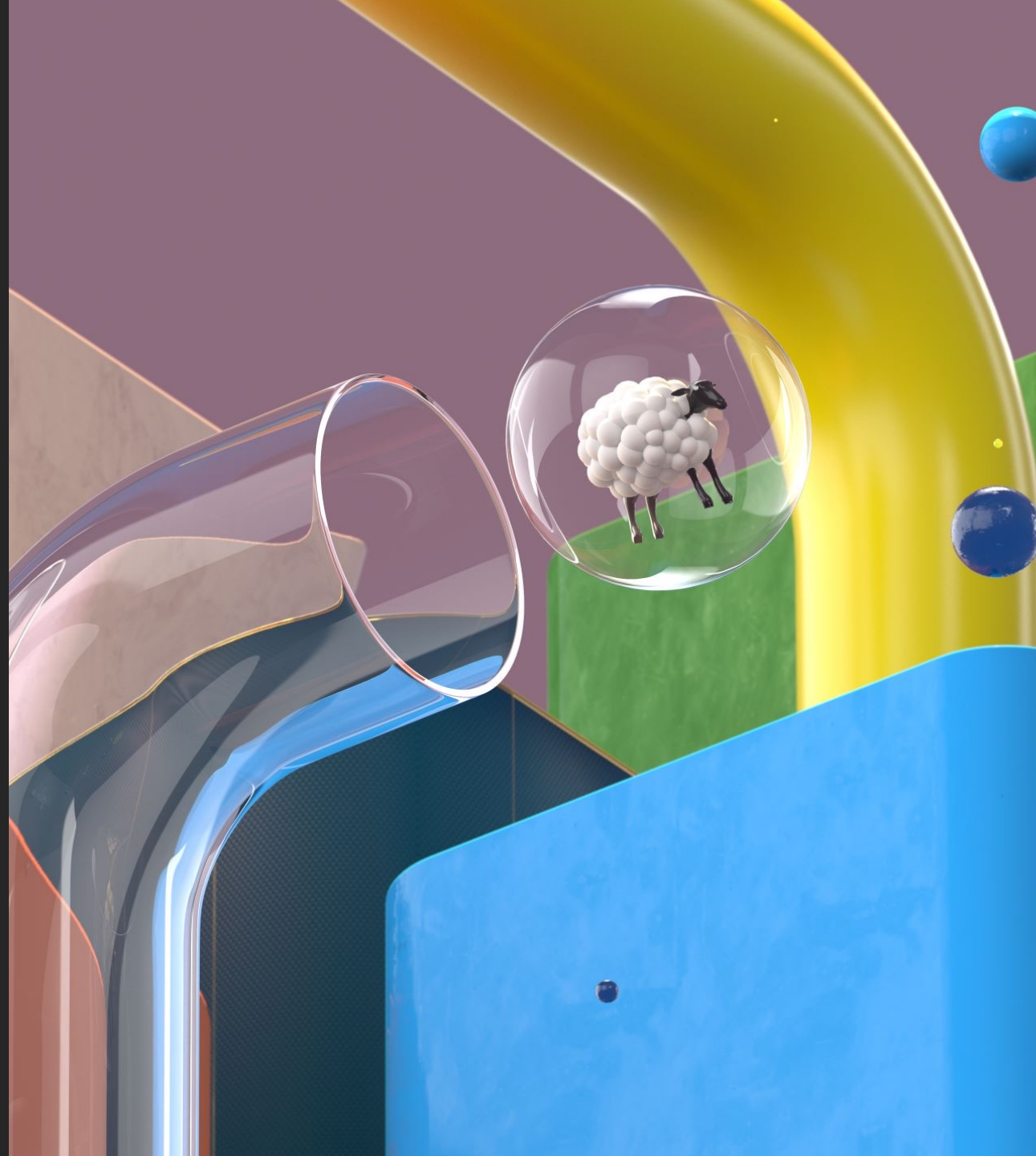


LEGO Mindstorms

LEGO Mindstorms is a line of programmable robotics kits that allow students to build and program their own robots. With LEGO bricks, motors, sensors, and a programmable "brick," students can create robots and control their behavior using a graphical programming language. The kits provide a hands-on approach to learning STEM concepts, fostering creativity, problem-solving, and critical thinking skills. Featuring various sensors and motors, the robots can interact with their environment and perform actions. LEGO Mindstorms has gained popularity in education and inspired competitions, creating a community of enthusiasts. It offers a fun and engaging way for individuals, especially young learners, to explore robotics and develop technological skills.

Photoshop and Lightroom

Photoshop and Lightroom are amazing software tools created by Adobe that can help kids bring their photos to life! With Photoshop, they can have fun adding cool effects, creating imaginative compositions, and even retouching their pictures like magic. They can explore a world of artistic possibilities with layers, filters, and all sorts of editing tools. And with Lightroom, organizing and editing their photo collections becomes a breeze. They can make their pictures pop by adjusting colors, brightness, and more. Whether they want to create fantastical scenes or make their photos look extra special, Photoshop and Lightroom offer exciting adventures in the world of digital photography for kids of all ages!



Powtoons

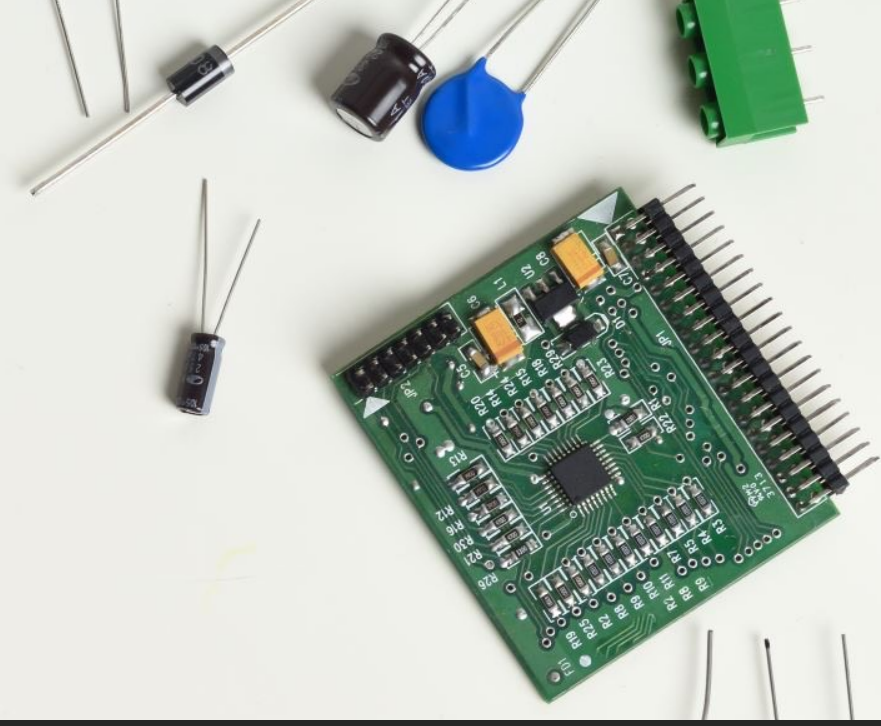
Powtoon is an engaging and user-friendly online platform that empowers students to create animated videos and presentations. With Powtoon, students can bring their ideas to life through captivating visuals, animated characters, and dynamic transitions. The intuitive drag-and-drop interface makes it easy for students to craft professional-looking videos without requiring advanced technical skills. Whether it's for school projects, presentations, or creative storytelling, Powtoon offers a wide range of templates, graphics, and customizable features to suit different purposes. Students can enhance their communication skills, creativity, and digital literacy as they learn to effectively convey information and ideas through animated videos using Powtoon's innovative tools and resources.

Experiments with Google

Experiments with Google is a captivating platform that invites students to explore and interact with innovative and cutting-edge projects. It showcases a collection of interactive experiments that harness the power of technology to create unique and immersive experiences. From virtual reality and machine learning to art and music, Experiments with Google offers a diverse range of projects that inspire curiosity and creativity. Students can engage with experiments that combine art and technology, explore scientific concepts through interactive simulations, or even create their own experiments using open-source tools and resources. This platform encourages students to think outside the box, experiment with new ideas, and gain hands-on experience with emerging technologies in a playful and educational manner.

Terrariums

A terrarium is a miniature garden enclosed in a transparent container, typically made of glass or plastic. It provides students with a hands-on opportunity to create and observe their own self-contained ecosystem. By carefully selecting plants, soil, and decorative elements, students can design a unique and low-maintenance habitat. Terrariums offer a practical way for students to learn about the water cycle, photosynthesis, and the relationships between plants and their environment. They also serve as a wonderful tool for teaching responsibility and nurturing living organisms. Through the process of designing and caring for a terrarium, students can develop a deeper appreciation for nature and gain valuable insights into the interconnectedness of ecosystems.



Computer Builder Simulator

Computer Builder Simulator is an exciting and educational game that allows students to simulate the experience of building and customizing their own virtual computers. In this game, students can explore the intricacies of computer hardware and learn about the various components required to assemble a functional system. They can choose from a wide range of virtual components, including processors, graphics cards, motherboards, and more, to create their ideal computer configuration. The game provides a realistic and interactive environment where students can experiment with different combinations of hardware, test compatibility, and understand the impact of their choices on system performance. Computer Builder Simulator offers a fun and immersive way for students to develop their knowledge of computer components, build problem-solving skills, and satisfy their curiosity about the inner workings of computers, all in a gamified and engaging experience.

Website Building

Website building is an exciting and creative process that empowers students to create their own online presence. With various website building platforms and tools available, students can design and develop websites without the need for extensive coding knowledge. These intuitive platforms offer user-friendly interfaces and drag-and-drop functionality, allowing students to easily customize layouts, add content, and incorporate multimedia elements. Students can showcase their projects, portfolios, or personal interests by creating visually appealing and interactive websites. Website building enables students to develop skills in design, organization, and digital communication while gaining a deeper understanding of web development principles. It also provides a valuable opportunity for students to express their creativity and share their ideas with a global audience on the internet.

Graphic Design

Graphic design is a creative and visual communication process that allows students to express their ideas and messages through imagery, typography, and layout. With graphic design tools and software, students can explore various design elements such as color, composition, and typography to create visually appealing and impactful designs. Whether it's designing logos, posters, brochures, or digital graphics, graphic design provides a platform for students to develop their artistic skills and storytelling abilities. It encourages students to think critically about visual communication, aesthetics, and the effective presentation of information. Graphic design offers a versatile medium for self-expression and allows students to convey their unique perspectives and creativity in both digital and print formats.