

2021 – Challenge Camp Sample Classes

Challenge Camp



A Summer of Fun and Learning, too!

This list is designed to provide you with a representative sample of Challenge Camp classes. Once we have more information from the State and County Health Departments, we will create the schedule of options for the Cohort groups. Many of the classes here will be part of the Summer 2021 curriculum plan, however, that does not mean that all of the listed sample classes will be offered.

1) **A full day of camp consists of 5 classes and is from 9am – 4pm.** Morning Workshops are 90 minutes (9:00 and 10:30), and Afternoon Classes 60 minutes (1:00, 2:00 & 3:00) are a mixture of sports and enrichment options as campers are encouraged to challenge both their minds and bodies.

2) We use camper's **CURRENT GRADE as of September 2020** for class selection.

3) In a typical Challenge Camp summer, there are over 100 STEM & Arts Enrichment Options for you to customize a schedule based on your child's interests. **We are anticipating adopting a Cohort Model for Summer 2021.** Our goal is to maintain the feel of Challenge Camp by offering electives within the cohorts for each period throughout the day. **We are planning for there to be 3-5 class selections during each period pending guidance on cohort size from the State and County Health Departments.** Once the regulations are announced, we will post schedules for registered campers to select their electives within the cohort.

4) Certain courses may have a materials fee listed. These are typically for class kits or projects.

5) To avoid sharing of technology on campus, we are exploring renting devices that can be assigned to your camper (laptops and/or tablets). We do not want campers bringing personal devices from home onto campus.

6) If you need assistance or have any questions, please email info@challengecamps.com or call the camp office 914-779-6024.

Alphabetical List – Sample Classes

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3D Printing the Future

This course is designed to introduce 3D modeling and printing techniques to beginners. Campers will learn an overview of the components of the printer and how the process works. They will learn how to navigate a variety of 3D design software including the popular TinkerCad, Cura and Meshmixer to develop their own 3D models. In this project based course the students will learn the possibilities for creativity are endless and will take home a printer and filament to continue inventing.

3D Printer and Plastic Filament Fee: \$350

3D Printing Unleashed

Building upon the core concepts of 3D printing, this curriculum will explore advanced techniques for designing and preparing 3D models for printing, the basics of support structures, exploring exotic wood and flexible filaments, and troubleshooting common situations that may arise. The course will include more in-depth look at software tools and techniques, such as creating see-through lithophanes with images, and basic 3D scanning techniques through photogrammetry. Campers will take home their printer, filament and the exciting potential of 3D printing will be unleashed.

3D Printer and Plastic Filament Fee: \$450

Adventures in Art

This class is for children who love to experiment with art materials. We will emphasize techniques that create surprising and exciting effects and rich textures, such as marbling, monoprints, painted-paper collages, melted-crayon drawings, scratchboard and more. We will draw, paint, sculpt, squirt, swirl, roll and stamp and let the element of discovery enhance our creativity. By creating animations with some of our drawings and collages, we will see our art in motion!

Adventures in the Lab

Do you know what it takes to be a good scientist? Join us for an adventure into the scientific world where we will perform hands-on chemistry experiments! We will learn about different chemical compounds, conduct demonstrations to observe different chemical principles, and make science come alive! We will learn about exothermic reactions by making elephant toothpaste, experiment with polymers by making bouncing balls, the principles of buoyancy using common household materials, and attempt to fool our friends with some science magic! See the world with amazement and wonder as we embark on our lab adventures!

AI Robotics

Build, Code and Play as we enter the world of Artificial Intelligence and Robotics. These advanced robot kits will spark the imagination of campers as they learn elements of coding through activating their robots to navigate obstacles, pick-up objects, control light and sound effects, add personality, and more. Flexible functionality lets students imagine and design their own models. The machine learning capabilities will allow us to explore Artificial Intelligence on our journey to the future.

** Robotics Fee: \$200

APP Developer

We have all heard "there's an APP for that"... Great apps start with a tangible idea that can grow into something ground-breaking, clever or useful. We will explore exactly how apps work, what features they include as our programmers use the Shopify platform to develop their product. Our app expert will discuss factors that should be integrated into your business model: What do people want or need in an app? How do I make sure it works well? Are there competitors in the marketplace? And most importantly how do I launch my app? This is a modern business focused class for motivated campers.

Architecture and Design with 3Dux

Join us in this illuminating architecture and design class. Using a 3Dux Design kit designed for Challenge Camp, the campers will focus on physics, geometry, problem solving, and complex spatial thinking to build modern structures. You can construct a futuristic city, or a towering castle complete with a neighboring farm. Create prototypes for your inventions, or collaborate with a friend to create new ideas to develop and expand. We will also discuss electrical engineering concepts as we light up our projects. The possibilities are endless!

Architecture Kit Fee: \$50

Arduino Applications

What is a robot without a brain? Why is a smart phone so smart? How do you make your computer turn a motor? All of these are a result of microcontrollers, the next step in computing and technology. Here is an opportunity to learn how to use microcontrollers using the Arduino platform. Learn the basics of electrical engineering and programming as we build a number of projects using a basic starter kit and your imagination!

* Arduino Kit Fee: \$75

Art on the Move

So much fun for our littlest campers! We will begin each class with a themed dance such as "Hawaiian Luau" or "Animal Safari" and then create an art piece related to our dance using clay, colored pencils, cut paper and more.

Awesome Illusions & Puzzles

More than meets the eye! In this awesome workshop, inspired by New York City's Museum of Illusions, students will explore how neuroscience explains different optical illusions. We will use scientific principles to create our own using color, light and patterns. In this workshop campers will create puzzles and illusions that will both inspire and boggle the mind! Campers will create deceptive and misleading brain images like impossible waterfalls, visual paradoxes, mind-bending patterns, mirror illusions and create trick photography to provide a boost of brainpower and ignite your logic skills!

Black and White Drawing

You have to think out of the box in this class to create extraordinary artwork with the absence of color. Using pencils, Sharpies and paper, you will learn how to draw graphic designs of animals, trees and faces. You will be amazed at the movement and dimension in your drawings using only simple lines, contrast and shadows!

Blender 3D Simulations

Blender is a powerful 3D computer graphics software toolset which is used to create animated films, physics simulations, video games and so much more. Using Blender, you can create an impossible scene by controlling and animating physics: Quickly build a tower just to knock it down and watch how it falls from any angle, Pour water into a glass cup and get the perfect, photo-realistic picture as it splashes out, write your name in big 3D letters and then hit it with a wrecking ball - smashing it into a million pieces! Computer creativity and imagination is all you need to produce endless animated possibilities.* Campers must be on a PC or Mac

BOLD Pop Dance

This vibrant dance class blends the energy, freestyling, storytelling and power of hip hop and breaking, with jazz technique, while embracing the creativity of the dancers. Students will develop musicality, choreographic skills, strength, teamwork and confidence both onstage and off. A signature of all BOLD Arts programs is that each person's individual strengths and personality shine through the work we create together. All students will have the opportunity for a virtual performance at the end of the session. *Taught by BOLD Arts.*

Challenge Makerspace

Are you eager to create and experiment in engineering? A makerspace provides a hands-on, creative way to encourage students to design, experiment, build and invent as they engage in science, engineering and tinkering. In this project based STEM class campers will work in a collaborative setting and build invaluable problem solving skills. Examples of the fun engineering based projects may include building catapults, electric boats, a flashlight, pendulums, pneumatic machines, and a solar car.

Maker Fee: \$100

Checkmate

An introduction to the exciting world of chess. Chess enables children to develop and enhance their skills in discipline, concentration and patience. Students will learn basic opening, middlegame, and endgame strategies and how to achieve a proper coordination of pieces. Students will learn useful skills such as pattern recognition, calculating and analyzing. Chess notation will be taught in order to review games. Interactive instruction will focus on lecture, discussion and basic strategy.

Cityscapes

Create your own 3Dimensional artwork a la Charles Fazzino! After choosing your architectural style, you will design an imaginary city and using a fascinating technique, will create a Cityscape that will literally POP off the page! This program integrates an appreciation of architecture with learning how to design, plan and produce 3D art.

Code Central: Introduction to Java

This course aims to teach the basics of one of the most powerful and wide spread programming languages—Java. You will learn about variables, loops, control structures (if/then logic), arrays and how to write classes. You will learn to think both algorithmically and creatively. We will use Java to calculate PI, and solve problems – for example, did the Indians get a good deal when they sold Manhattan to the Dutch for \$24 in 1626? We will create games like Mad Libs, guess the state capital, and how to convert English into Pig Latin. There are no prerequisites other than a desire to learn.

Code Central: Javascript Animation and Design

Learn coding basics while having fun creating animation, games and sketch art. We will be using a version of Javascript known as p5.js. Javascript is the most widely used computer programming language and the backbone to most web pages. p5.js makes coding fun and easy for artists, designers and beginners. In less than 15 lines, you will be able to create an arrow shooting across the screen or a waterfall of balloons of different sizes and colors bouncing around the screen (and needing to be popped!) p5.js is great for visual learners. You will learn how to create variables, loops and algorithms.

Code Central: Python

This course aims to teach the basics of Python, an object oriented programming language. Perfect for beginning programmers or budding technologists to squeeze programming power and fun out of their computer, Python uses a simple syntax and has an easy learning curve. Learn about variables, loops, decision statements, and other basic programming concepts using this easy-to-read programming language. The coding principles will provide the building blocks to learn programming languages in the future.

Code Central: Scratch Game Creators

Learn coding basics while having fun creating games and animation using the online program known as Scratch. Campers will learn to develop algorithms, use variables, loops and control structures (if/then logic) to create a multi-media experience. Scratch is a drag and drop website which makes programming easy, fun and painless. Campers will create games such as Flappy Birds, Space Invaders, Shoot 'em, Pong, Maze and other games of their own imagination. Your games will have obstacles, dragons, special ghosting and color effects, timers and scoring. Campers will also make beautiful animated art work like whirling spirals, planets circling around the sun in the solar system, and spin art.

Code Central: Tinker With Tynker

In this class, campers will learn how to create their own video games using the Tynker software. Tynker is a visual programming language that enables students to create games and animated projects. Using visual code blocks, Tynker guides you through programming concepts – such as loops, conditional logic, sequencing, and algorithmic thinking. Students will have access to Python, Java, and Swift programming languages. Students will learn how to tell a good story, logically sequence events, and model real situations while increasing their technical proficiency and confidence. The lessons will enable them to create their own coding projects and connect to real world activities with Nasa and the United Nations.

Collage Art

Campers will create a great masterpiece using the unique process of painting and paper collage. Original drawings of animals, figures or portraits will dazzle when painted and completed with colorful papers from magazines or newspapers.

Curious Chef

In this class, campers will learn the basics of cooking and healthy eating. Cooking is math, science and an art. Chefs will learn kitchen organization, following directions, measuring and preparing ingredients to complete a recipe from start to finish. Experience making simple foods from scratch and create the foundation to be good chefs and more informed eaters.

Dash Robotics

Woohoo, meet Dash, a real robot that will make learning to code fun. Responding to voice, navigating objects, dancing, and singing, Dash is the robot you always dreamed of having. Campers will use Wonder, Blockly, and other apps to create new behaviors for Dash — doing more with robotics than ever possible. Let Dash open a canvas for exploration and collaboration by unleashing your creativity as you program Dash to greet you, deliver a message to a friend, follow you on a journey, and become a true partner in fun.

* Robot Fee: \$150

Debate Club

Public speaking and the ability to articulate a position are critical to ensure that your voice is heard and you have a platform to share your ideas. The principles of the National Speech and Debate Association (NSDA) - creativity, persuasion, collaboration and adaptability are crucial to success in debate competitions. Can you convince an audience in the face of informed, persuasive competition, or take a considered approach to both sides of a position? Can you think on your feet and bring your words to life as you tailor your performance to an audience? These are skills we will develop as we form virtual debate teams and collaborate to construct oral and written arguments using Flipgrid and Google Meet. The session will culminate with a digital tournament similar to the NSDA's 2020 live virtual debate.

Digital Comics

Digital graphic comics and stories are extremely popular with campers of all ages! In this engaging digital storytelling class we will read, write and illustrate our own comics and designs. You don't have to be an artist as there is themed art from you to pick from, incredible animation and loads of templates to start story building with! If you have an idea, you can quickly create visually dazzling content for your story. Create and animate your characters, word balloons, sound effects and bring your original stories to life on screen.

Digital Film Academy

Let's make movies! In this interactive digital movie making class students will participate in the full creative process of developing an original professional short film. With a professional Director leading the production, campers will be part of a high quality collaborative team effort to brainstorm ideas and costumes, write, location scout, shoot, direct, act and edit their film. Campers will gain an enhanced understanding of digital media while learning appropriate and responsible use of technology to become good digital citizens. We can't wait to see the premiere!

Film Fee: \$50

DoodleMatic Game Maker

Have you ever wanted to create your own video game? Do you like to doodle or draw? In this class you will learn how to make your very own video games using DoodleMatic Game Maker! All you need to do is draw and then watch your doodles magically come to life as playable games. Campers will learn and use the exciting new DoodleMatic App and all of it's editing and Power-Up features! This exciting class will teach campers game mechanics and concepts through STEAM and literacy exploration and mini drawing lessons! At the end of the session campers will have a collection of games they created from the stories, characters, goals, worlds, hazards and game challenges developed in class.

DoodleMatic Kit Fee: \$30

Dr. Goodbody

Your body is an incredible machine composed of thousands of working parts. In this class we will explore all of the different ways your body functions to keep you alive. You will learn life science: bones (an adult has 206) and how they keep you standing, muscles, nervous, circulatory systems and more. Understand why you get dizzy when you spin around, check your blood pressure and see how you fare in our senses, lung capacity and reflex challenges as part of our emergency medical experience.

Drone Flight School

Our beginning drone class will explore the various uses of drones. They can be used for delivery, surveillance and security, aerial photography, filmmaking and more. We will discuss safe and responsible drone operation and local laws that apply. Campers will then fly their pre-assembled drones using Line of Sight (LOS) techniques. With practice, our new drone pilots will fly through obstacles and learn advanced flying techniques. Each camper will take home their own fully-functional drone.

Drone Fee: \$300

Drone Racing Sim League

What happens when you combine the thrill of Star Wars pod-racing with the real-world adrenaline of Formula 1? Drone...Racing...Sim...League. All you need is a controller and the need for speed. The DRL Simulator is the premier FPV racing game and simulator racing on supercharged tracks and courses! The DRL Sim offers a robust, evolving feature set, including high-intensity racing with customized drones. You will race on the same tracks that DRL's real world pilots compete on. This is going to be AMAZING - let's fly!

Dungeons & Dragons

If you can imagine and think of lands and magical creatures, then you can play Dungeons and Dragons. Think of yourself as a character in a book. Imagine magical places and items – many surprises lie ahead.

Edison Robotics

Enter the world of robotics and coding with Edison Robotics. The Edison robot is a powerful, engaging tool for teaching children computational thinking and computer programming in a hands-on way. Campers can immerse themselves in a variety of STEM and engineering projects as they learn to build and invent. Using the EdBlocks and EdScratch software, these programmable robots will open up the world of coding and bring computer science to life.

* Estimated Robot Fee: \$50

Engineering Design Thinking with Augmented Reality

Immerse yourself in the emerging technology of Augmented Reality (AR) in this dynamic class. We will complete engineering design thinking challenges using Tinkercad 3D design software and export our creations into AR using Merge Cubes. We may be virtual, but you will be able to hold your friends' designs in your "hands" through this innovative AR app. With this cutting edge technology we can create, share, problem solve and collaborate in another dimension.

Escape Room

Trapped in a room with a group of friends and one way out, you must search for clues and solve several kinds of puzzles and riddles to plot your great escape. When the challenge has been mastered, you will be guaranteed laughter, a sense of accomplishment and a new respect for your classmates and their abilities. Groups will complete a series of escape room challenges together and will then design their own escape room models and games for others to solve. This is an experience that will be remembered for a lifetime... assuming you ever make it out!

Fantastic Beasts

Create characters using a variety of art materials, including felted wool (great for making soft cuddly animal buddies), paper-mache, clay, and more. Then learn how to make them come to life and fly, walk, run or swim using stop-motion animation techniques. Work with your friends or on your own to film your beasts' adventures. This class will focus on sculpture and painting techniques in addition to the animation projects.

Fencing

En garde! Learn the exciting Olympic sport of fencing. Campers will learn how to parry, cut, and lunge, as they improve strength, coordination, focus, balance and more. Fencing is a high-speed, exhilarating sport that relies on quick wits and cunning, and engages the entire body along with the mind... most importantly, it's FUN!

Fashion Forward Wearable Tech

Do you have interest in learning the art of fashion design from a professional designer? Join us in the fashion studio to discover the latest fashion trends including modern designs and wearable LED technology. Students will create fashion illustrations using mixed media, magazine tear sheets, fabric swatches and personal mood board designs. This imaginative course combines both creative and technical aspects of fashion design to create your own beautiful LED skirt, messenger bags and hair accessories to light up your world.

Fashion Fee: \$50

Fortnite the Next Level

Fortnite has taken the world by storm. Join our squad of Challenge Camp gamers as we improve our skills and learn advanced strategies for Battle Royale competitions. Fortnite has been described as a cross between Minecraft and the Hunger Games. Campers will refine their building techniques and develop methods for cooperative play and coordinating strategies. We will practice our jubilation dances both on and off screen. Take your game to the next level in a tournament setting and be tested against the Fortnite Master himself, Mr. Geoff to see who can be the ultimate survivor... Good Luck!

PLEASE HAVE A CURRENT FORTNITE ACCOUNT PRIOR TO THE START OF CAMP

**** Fortnite is Rated T for TEEN by the ESRB ****

FPV Drone Builder

In this exciting technical course we will build a First Person View (FPV) Racing Drone. Building and programming are taught as an important part of this assembly process. Campers will learn how to fly from a FPV, as if you were in the cockpit and practice flying and racing techniques, including races of our own! We will address safe and ethical uses of drones and learn to be responsible drone operators and owners. Each camper will assemble and keep their own fully-functional drone and FPV goggles. Drone Fee: \$500

Fun with Photoshop

Have you ever wondered how funny pictures are made? Have you seen a cat's head looking natural on a person's body? What about the imperfect photo made perfect? In this class you will learn about all of the tools to enhance your pictures and make fun photos. Topics include basic image editing, transformation, retouching, enhancement, and compositing taught by a professional photographer. Campers will work on their own portfolios and participate in group projects. We will be working in Photoshop CC and students participating in Photo Finish will learn advanced techniques.

* Photoshop License Fee: \$50

Galaxy Quest

During this course, we will discuss the development of humanity's understanding of the solar system, examining contributions by Aristotle, Ptolemy, Copernicus, Galileo, Newton, Einstein and others. What makes Earth different from all other planets? What has NASA discovered about Mars' suitability for life? What are super moons, eclipses, asteroids and comets? the Hubble Telescope and the Kepler Mission revealed over 2000 exoplanets around stars other than the sun. Create your own solar system incorporating our knowledge of the Milky Way, planets, moons, stars and other galaxies. We will debate if life really can exist on other planets and when humans will be able to visit them!

Graffiti Art Skateboard Design

Skateboarding is about having fun and expressing your own individual style. Explore the world of pop and graffiti art by designing, sketching, drawing and painting to create your own brand of skateboards, logos, and all things skater! Your canvas is a skateboard, and campers will leave with their personally designed skateboard deck protected with clear coat, perfect for hanging as wall art or ready to add hardware for skating! Think of the possibilities and make your skateboard the coolest one on the block!

* Skateboard Fee: \$100

HACKS!

A HACK is a strategy or technique for managing one's time or activities more efficiently. HACK-A-THONS, which don't necessarily involve technology, allow children to test their skills and to gain experience working with a team, solving actual problems. Many of us use "life hack" tricks every day, from using a binder clip to seal a bag in the kitchen, to tying a colored ribbon on luggage or using an eyeglass case to hold charging cables in our backpack. We will analyze the characteristics of good life hacks and even create new ones of our own using a maker mentality. We will also be presented with Hack-a-thon team challenges to develop our problem solving and teamwork skills. As we collaborate and form inventive solutions to real world problems, students will learn that their ideas should be interesting not only for them but also for potential consumers, government entities, or even investors.

Highly Logical

Logic is everywhere! Whether you want to be a doctor, lawyer, teacher, or a major league pitcher, you make use of logical arguments to guide your decision process all the time. Develop critical reasoning skills by engaging in a variety of logic games to test your wits. Tackle grid puzzles, cryptarithms, numerical sequences, Sudokus, Ken-Kens, mazes and all sorts of devilish brain teasers. Challenge your friends and family with the puzzles that you create. All that is required is a keen intellect and a desire for fun!

The Illusionist

Have you ever wanted to make a coin disappear, read someone else's mind, make solid objects pass through each other or cause a rope cut in two to magically restore itself? Learn how to do this and much more by joining renowned magician Joseph Fields to uncover magic's biggest secrets, fool your friends and be the life of the party. The delightful art of balloon sculpture will also be taught.

Transform yourself into an illusionist with a personalized magic briefcase full of tricks!

**Magic Fee: \$40

Iron Chef

Designed for campers who have some experience in the kitchen. Learn how to cook breakfast, lunch and dinner dishes for your families! Focus on healthier foods and desserts with less sugar. A chef's knowledge and meal choices really do make a difference in our lives. Campers will learn how to prep ingredients, organize their work space, cook, and plate their well balanced finished foods with pride.

It's a Small World

Through music and songs, we will discover many countries and their musical culture: Korea, France, Ireland, Africa and the United States. You will build a likembe, also called kalimba and make your own "one of a kind" instrument out of recycled materials.

Junior Entrepreneur

Have you ever wanted to run your own small business and make your own design, plan, price and sales decisions? Campers will enter the shark tank and become entrepreneurs building an idea from scratch and ending with a business plan. You'll be challenged from concept to generation of a product or service including marketing and advertising. After honing your analytical, logical and communication skills, you'll confidently present your plan to "investors" from Wall Street and raise play-money. Learning practical and operational aspects of the stock market, campers will determine the most viable businesses. Entrepreneurs also brainstorm ideas for games and services for the Challenge Cares Carnival, and the money raised will be used for charitable entity chosen by Challenge Camp.

LEGO Tech Junior

Use Legos as the inspiration to construct, investigate and communicate like little Einsteins. Students will use models to predict, observe, measure and collect data, experiencing forces, motion, energy, mechanisms and magnetism first hand. They will develop complex problem solving skills and understand the interaction between forces and motion, measurement, energy, speed (velocity) and weight (mass). This course will introduce campers to simple machines concepts while building teamwork and communication skills. They will discover basic physical science concepts such as gears, pulleys, levers, and wheels and axles through observation, reasoning, prediction, and critical thinking. Lego Fee: \$25

Little Fashionistas

For all aspiring fashion designers, this is the perfect class for you! A professional designer will teach techniques of fashion including illustrations using mixed media, real fabric swatches, sketches and personal mood boards. Campers will work creatively and technically while having fun and producing their own unique fashion style! All students will design and create an LED bag and a fashion top or scrunchie/headband to add to their collections.

Fashion Fee: \$40

“A Maleficent Sleeping Beauty“

Before we traveled to Oz, there was Sleeping Beauty and the Magnificently Mean Maleficent. Spark your imagination, as we learn the story is not quite as you were told. Enter the realm of the Mistress of Evil as we are lead through a magical forest into her haunted castle by a madcap cast of magical ghouls, vampires and mummies. From “Once Upon a Dream” to “You Can’t Stop the Girl”, join this company for our performance that will be "Defying Gravity" while rattling your bones and leaving you smiling.

**Script, score, costume and materials fee: \$50

Math Explorations

Join us on our math explorations as we explore new ideas and concepts. Your camper will develop the curiosity, courage and confidence to take on any math challenges. Math is all around us, and through activities such as fraction hunts, sponge art transformations, geometric designs, unit and rate calculations, shape origami and Emoji graphs we will expand our horizons. We will immerse ourselves in math technology by making Pixel Art and using Polyup, an open computational playground where students can experiment with numbers and functions. Sharpen your pencils and master your numbers skills in this hands-on curriculum where we will explore math in rich and creative ways.

Mindful Art

Campers will create works of art that encourage and facilitate a relaxed peaceful state of mind. In a friendly, creative, judgment free zone campers will be encouraged to tap into and connect with their mind, body, and soul that they will express through visual arts. Campers will experience working in many mediums including color pencil, paint, collage, and more. They will explore making mandalas, gratitude jars, dream catchers, dream paintings and beyond.

Minecraft: Challenge Camp Edition

Minecraft combines easy to use graphics and game play coupled with multi player in several different modes accessible to learn at different levels. Journey from simple game play, to more complex world creation and server hosting. Campers will work together to create their own computer generated worlds with an almost infinite combination of primitive mechanical devices, electrical circuits, and logic gates built with an in-game materials known as Redstone. Using teamwork to create a world from the ground up, Minecraft will serve as a gateway to enlighten students how to safely and securely utilize technology involved in game creation. Many aspects of the computer science and information systems worlds will be introduced including but not limited to software programming, overall concepts and principles of networking and the hardware required in building these seemingly complex systems.

PLEASE HAVE A CURRENT MINECRAFT ACCOUNT PRIOR TO THE START OF CAMP

MOMA Painting

A painting class inspired by the great impressionistic masters, we will create four unique paintings studying different techniques of color, drawing and paint style. Drawing on techniques from Claude Monet, Vincent Van Gogh, Auguste Renoir and Edgar Degas, we will paint and draw our own beautiful works.

Musique Fantastique

Learn French through music! Our campers will learn a selection of vocabulary and sentence structures while having fun! Instrument playing, sing-along games, finger-play and puppets are used to enhance comprehension through repetition while hearing and feeling the rhythm of the language.

Next in Fashion Drawing

A fashion designer starts creating their designs by illustrating their ideas and concepts then making a Moodboard that showcases their ideas in a visual creative presentation. Learn step by step how to build a fashion illustration and sketch out a design on a fashion figure. Students will learn about fabric, colors, concepts, and how to build a collection. Every student will have their own unique boards/ideas in the end to show and share their fashion collection. This is a very creative and fun class for both little fashionistas and more advanced artists.

Ninja Training

To be a ninja you must train regularly, yet not overdo training. In this class we will focus on the importance of control, endurance, stamina, coordination, balance, self-awareness and discipline. Come ready not just with your bandana but be ready to move. There will be circuit training with time pressure, balance control, and challenges to coordination. We will focus on effective fundamental mobility and stability while having fun.

One-man Band: Digital Music with GarageBand

What do your favorite songs all have in common? Chances are they were all made in a recording studio! A "recording studio" can be refer to a fancy, expensive, high-end recording facility, or it can be as humble as your home bedroom! In this workshop, campers will learn the secrets of the music industry, its players, and what it takes to write, produce, record, and distribute music from home with GarageBand. We will go over how to use the program, and how to upload finished songs onto free music-hosting sites like YouTube and Soundcloud. No musical experience is necessary, however, students are encouraged to bring their own "instruments" and abilities to class. We will use our combined creativity to record popular and original songs that we will compose together! Whether you want to be the next Rihanna, Ryan Tedder, or the person who produces for them, this class is awesome! Musicians will produce and release original music as their final project.

Op Art

Op art, also called optical art is a compilation of bewildering images which play tricks on your eyes and brain. These fascinating visual illusions are a reminder that our senses are imperfect and our perception of the world is often distorted. We will examine various types of Op Art from M.C. Escher to the more modern Gianni Sarcone and discover how to make these amazing paintings and drawings that trick the senses. Your original optical wonder artwork will thrill all because nothing is what it seems in the Museum of Illusions!

Opening Bell

In this introduction to Wall Street class, students will build a virtual stock portfolio and compete for the "best stock picker" bragging rights. After watching the Opening Bell at the NYSE and NASDAQ, we will learn the analytical and operating aspects of the stock market. We will begin by evaluating and comparing stocks. Then we will review our portfolio daily and debate our purchases while learning to use tools to assist in our decisions to buy, sell or hold individual companies. By understanding how the stock market works, we will know the pros and cons of investing and how to buy low and sell high!

Outside the Box

Inventors think outside the box to develop new concepts and technologies that change the world. Design thinking and the spirit to solve problems are all that you need to become an accomplished inventor. Think about how these amazing inventions have changed our lives: Light Bulbs, Computers, GPS, Microwave Ovens and Cell Phones – they all started with an idea. This course will explain how to think, act and write like a modern inventor. We will analyze the past to enable campers to brainstorm individually and in groups to discover how one good idea leads to completely new fields of explorations, patents or intellectual property. Our inventors will have hands-on projects and materials for discovery and inspiration. Will your invention change the world? Let's find out together.

* Inventor Fee: \$50

PC Builders Academy

Ever wonder what it takes to actually assemble a personal computer? In this course we will learn about each component by understanding how to tear down and rebuild a used PC, then we will build our own from soup to nuts! Starting with a bare case, to the motherboard, to the operating system and software involved, you will fully assemble, operate, tweak, and in the end use your new blazing fast PC! This PC can replace that aging desktop at home.

* Estimated Computer Fee: \$650

Photo Finish

This exciting class will teach the fundamentals of basic digital photography to capture images throughout the camp or home setting. Campers are required to have a digital camera or cell phone camera fully charged. Each day in class, Liz will teach you all you need to know to develop your photographic eye. Class time will be spent learning technique, shooting pictures and creating your portfolio for weekly contests. Each camper will receive a personal printed portfolio featuring their best work.

Pinball Wizard

Construct your own PinBox Pinball machine with two interchangeable playboards that you will design. For makers, creative thinkers and game designers, the PinBox 3000 is a tabletop cardboard pinball kit that artfully integrates mechanical engineering, physics, sculpture, product design and performance! Light up your play board and be ready to "Tilt the Future!"

Pinball Kit Fee: \$50

Planes, Trains & Automobiles

Modern transportation has changed how people work and live. Have you ever wondered how an airplane flies or a boat floats? Join us on a fast paced journey as we create various forms of transportation and learn the scientific principles behind them. Campers will be introduced to STEM concepts and learn about the scientific process. Basic engineering and physics will be applied to construction of soap box derby cars, boats, planes, trains, rocket ships, and more! All powered by rubber bands, propellers, hydraulics, and imagination!

Supply Fee: \$30

Podcast Kidz

Learn how to tell stories about your favorite topics ranging from sports, news, fashion, books, comedy, video games to discuss “on-air”. You can choose topics that go from serious to silly, from fun to frightening and everything in between. We will learn how to write, improvise, interview, and edit your own recording in our podcasting studio. We will discover the various podcasting platforms to allow you to share your broadcasts with friends and family all over the world.

Pokemon

Pokemon TCG is an exciting and longtime favorite card game of strategy and skill where campers collect, train, and battle the cute Pokemon characters that inhabit their world. Beginning and experienced players will take on the role of a Pokemon Trainer and play another Trainer to knock each other's Pokemon out of the battle! We will be taking our battles virtual this summer!

Pop Art Painting

Enter the world of Andy Warhol and Roy Lichtenstein in this multi media painting class. We will use papers, magazines, plastics and more to complete your pop art paintings! Made on canvas, these inspired, bright and modern works of art will spark your imagination and creativity!

Recycled Art

Recycle your empty jars and containers turning them into wonderful works of art! We will use paper, paint, twine and found objects to decoupage, embellish and beautify empty cans, bottles, drawer dividers, boxes, paper bags and flower pots.

Rock Star

Have you ever wanted to be in a rock and roll band? This class is an ensemble course providing instruction for musicians who wish to experience all facets of playing, rehearsing and performing with a rock band. The typical lineup of a band is rhythm guitar, lead guitar, bass and drums with a vocalist. Other instruments can be added to any band – keyboard players, fiddle players, horns, and auxiliary percussion players to increase the soundscape of the music. Challenge Camp provides amplification for guitarists, a bassist, a drum set, a keyboard and a P.A. for lead and backup vocals. This course is recommended for campers with musical training and a willingness to bring their own instruments. Beginners are welcome to join in the fun as well. The culmination of rock band class will include a performance for fellow campers as a final project.

Science Magic

Get ready for a magical experience as we learn the science behind phenomenal experiments! We will explore scientific principles as we go inside a giant soap bubble, create glowing slime, make eggs bounce, make glasses out of Jello, create underwater fireworks, write secret codes in invisible ink, change pennies into silver and gold and more. Young scientists will learn skills for problem solving, creative thinking, decision making, hypothesizing and drawing conclusions.

Spanish Fiesta

Explore the beautiful, art, culture & Language of Mexico. We will learn beginning Spanish through music and art projects. Exploring food, songs and children's games at Fiestas, we will take this trip together.

Stop Motion Laboratory

Whether you love drawing, painting and sculpture or whether you would like to write stories or act out dramatic scenes, you will have fun exploring the possibilities of animation. Spend a little time learning the basics of handling the camera setup and stop-motion app, then let your imagination take off as you bring your drawings to life, or create your own 3-D characters with modeling clay. You can also use small toys, or even animate real people in your films. Students will receive a digital copy of their films and can take home artwork they created while making it.

Tinker Garage

In this fun filled automotive engineering class, campers will explore the fascinating science behind cars, trucks, automobiles. Through many exciting physics and engineering projects, we will understand what makes a car go and examine solar power, internal combustion, and battery power. Campers will construct several projects helping us to explore drag, momentum, hydraulics, and alternative energy.

* Tinker Fee: \$100

Vive La France!

Travel to Paris and the provinces of France. Discover the French countryside and Versailles. Traverse the Loire River, villages, food, and music. Students pack their suitcase and travel with a real boarding pass and train tickets from the SNCF. This is a very interactive program including role-plays to allow students to learn the basics of the French language. Allons-y!

VR Explorers

Come explore the fascinating world of Virtual Reality through interactive and immersive coding techniques creating your own 3D space. Design a custom VR environment with CoSpaces adding objects, structures, landscapes and characters allowing you to experience your own historical scene or futuristic world as if you were standing in it. Use VR viewers to experience and perfect your world while helping classmates to improve theirs. The fun continues as you take home your own cardboard VR viewer, plus access to your CoSpaces account and the virtual experience you created... one that anyone can explore with the CoSpaces app!

Wix Web Design

Creating interesting, dynamic Websites begins with knowing how to use the tools of Web design. We will be mastering Wix, an online software tool that will allow campers to create professional looking content. Through exploration of design concepts such as layout, contrast, readability, and interactive elements we will develop an understanding of what makes a great user experience. Campers will create websites on a variety of topics including movie reviews, game history, favorite musical genre, "how to..." and more. We will develop documentation skills through digital photography, explore proper digital citizenry and etiquette, and create interactive Web sites that will showcase campers interests.

Yoga & Mindfulness

Campers will move through a fun and active yoga flow. They will learn how to utilize different breathing techniques to help calm down, cool down, and find their center. We will explore several different mindfulness activities to help campers stay present, positive, and happy during uncertain times. At the end of the session, they will have created their own yoga-pose deck of cards so that they can continue to practice yoga, breath work, and mindfulness activities beyond their camp experience.

YouTube Content Creator

Like and subscribe to this inventive class and show off your creative talent. Campers will develop the tools they need to create a sustainable YouTube or Twitch channel. We will learn how to create serialized content about areas that interests them. Topics explored include how to develop an audience and how to generate an on-camera personality. The course will give campers the digital skills of basic video editing and proper green screen use. Media ethics and strategies for staying safe online will be prioritized.