

2020 – Challenge Camp @Home Workshops

Challenge Camp



A Summer of Fun and Learning, too!

For those of you that are new to Challenge Camp, here are tips for understanding our course catalog:

- 1) **A full day of camp consists of 5 classes and is from 9am – 3pm.** Each period will last 50 minutes, with Screen Breaks intentionally built into the schedule between classes. In addition to the Full Day, we will also have flexible scheduling options. **Your camper could take 2, 3, 4 or 5 classes to enable you to structure your camper's day in a way that works best for your family.**
- 2) We use camper's **CURRENT GRADE as of September 2019** for class selection.
- 3) There are over 100 STEM & Arts Enrichment Options for you to customize a schedule based on your child's interests. **To streamline the process, we highly recommend referring to the course selection charts to guide you to the grade level appropriate classes** during each session and time slot.
- 4) The instructors will use the Google Classroom page to post supply lists and any software or apps that your camper will need to install to participate in their selected camp activities. **Parents are responsible for ordering supplies in advance of the session.** We encourage you to order sooner as delivery and shipping times now are unpredictable.
- 5) Certain courses may have a materials fee listed. These are for class kits or projects. **Where possible, we are working on making arrangements with vendors to ship items directly to you and included this is the listed material fee.** However, there still may be additional supplies required by the instructor. For classes with significant projects (ie PC Builders Academy, Drone Flight School and 3D Printing) **we have listed an estimated fee. We are trying to expedite the logistics, but may have you place the order directly with the vendor.**
- 6) If you need assistance or have any questions, please email info@challengecamps.com or call the camp office 914-779-6024.

Alphabetical List – All Classes

1) 3D Printing Lab Session 1 & 2
Double Period Grades 4-9 10:00 & 11:00

Our 3D Printing classes will be a have been redesigned for the virtual environment into a double period. We will have the printer shipped to your house and the instructor will walk you through the setup, levelling, troubleshooting and safety elements for using a 3D printer. Campers will learn how to navigate a variety of 3D design software to develop their own 3D models. A supply list for filament and other materials will be placed on the class page for ordering. For campers that have already taken 3D Printing at Challenge Camp, or have 3D printing experience – there will be advanced projects and materials to order on the class page.

* Estimated 3D Printer Fee: \$300

2) Adventures in Art Session 2
Grades K-2 9:00

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!

3) AI Robotics Session 1 & 2
Grades 4-9 2:00

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.

* Estimated Robotics Fee: \$200

4) APP Developer Session 1 & 2
Grades 4-9 1:00

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.

5) Applied Digital Skills Session 1 & 2
Grades 4-9 2:00

Digital literacy, problem solving and creativity are essential life skills. This class will teach practical digital skills that will be useful for the future in both school and work environments. Campers will engage in the Google ecosystem as we learn how to create presentations or use spreadsheets as digital tools for practical problem solving. There will be an emphasis on digital citizenry and the challenges that the students of today will face tomorrow. As we collaborate in a virtual space, campers will expand their critical thinking, collaboration, and digital skills.

6) Architecture and Design with 3Dux

Session 1 & 2

Grades 2-3 9:00

Grades 4-5 10:00

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 Fee: \$50

7) Arduino Applications

Session 1 & 2

Grades 4-9 2:00

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

8) Art on the Move

Session 1

Grades K-2 1:00

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.

9) Awesome Illusions & Puzzles

Session 1 & 2

Grades 2-6 11:00

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!

10) Black and White Drawing

Session 2

Grades 3-9 11:00

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!

11) Blender 3D Simulations Session 1
Grades 4-9 10:00

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

12) Board Game Makers Session 1
Grades 4-9 11:00

You and your classmates have been invited to join our game invention company that is looking for brand new products. We will explore the different tools needed to build a board game. We will develop an understanding of how the board's layout impacts game play, and the pieces and parts of a game are part of the overall design concept. After testing out virtual versions of different types of strategy, card, building and board games, our team will collaborate to design our own game(s). We will design our board, and create our own rules and Instructions, and perhaps our game will be a new Amazon best seller!

13) BOLD Pop Dance Session 1 & 2
Grades K-3 1:00
4-9 2:00

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.*

14) Challenge Makerspace Session 2
Grades 4-9 11:00
4-9 1:00

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. Estimated Maker Fee: \$100

15) Checkmate 1 Session 1 & 2
All Grades 9:00

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. Chess notation will be taught in order to review games. Instruction will establish an appropriate balance between lecture, discussion and structured play.

16) Checkmate 2 Session 1 & 2
Intermediate Level Players All Grades 10:00

Suitable for students who have already acquired a working knowledge of chess. The course will focus on methods of attack and defense, on long term strategic planning as well as tactics and combinations. Students will learn useful skills such as pattern recognition, calculating and analyzing. Classroom lectures will emphasize the elements of logical thinking through a series of chess puzzles.

17) Cityscapes Session 1
Grades 3-9 10:00

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.

18) Coaches Corner Session 1 & 2
Grades K-2 1:00
3-9 2:00

Our sports program this summer is going to bring new and creative ways to movement. Taking running, jumping, dribbling and kicking breaks everyday makes your body and mind work better! Coaches will set daily themes like: Bingo, Sports Training, Scavenger Hunt, Kahoot, Trivia and more. Active play and live instruction will enhance motor skills and coordination as we focus on fun, games and fitness in a new way.

19) Code Central: Advanced Java Session 1 & 2
Grades 4-9 1:00

This is a course for campers with some knowledge of programming and Java. We will broaden that knowledge through lessons about object-oriented design and inheritance plus a wide variety of challenging applications and games. What we learn and do together will be driven by the level of the campers' knowledge and desires. Every camper will be given a variety of programming challenges to solve. Examples include making games like hangman, battleship, various card games or tic tac toe. Creative techniques are required to solve the change return problem and the calculation of Armstrong numbers in a given range.

20) Code Central: Excel VBA Session 2
Grades 4-9 2:00

Excel is the most widely used technology platform in the world. Knowing Excel is one of the most critical skills any worker or student can have. VBA (Visual Basic for Applications) is the programming language embedded in Excel and is used widely in all fields, especially the business and financial worlds. In this course, students will get an introduction to Excel plus a deep dive into the VBA programming language. They will learn how to create variables, loops, control structures (if/then logic) and arrays. We will use this knowledge to create a chess board, a boggle board, dice games, a Yahtzee game and other games of our campers' imagination. Campers will need to have a version of Excel running on their computers.

21) Code Central: Introduction to Java Session 1 & 2
Grades 4-9 9:00

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.

22) Code Central: Javascript Animation and Design Session 1 & 2
Grades 4-9 11:00

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.

23) Code Central: Python Session 1 & 2
Grades 4-9 11:00

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.

24) Code Central: Scratch Game Creators Session 1 & 2
Grades 4-9 10:00
Session 1
Grades 4-9 2:00

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.

25) Code Central: Tinker With Tynker Session 1
11:00
Session 2
1:00
 Grades 1-4

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.

26) Collage Art Session 2
9:00
 Grades 3-9

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.

27) Computer Simulation Session 1 & 2
1:00 & 2:00
 Grades 3-9

Join us in the “computer lab” as we delve into simulated strategies and tactics with numerous engaging software titles. These include “Megaman” “Roller Coaster Creator”. “2 Fast Driver”, “Paintball Sim”, “Dancing Craze”, “Crazy Cooking” and more. Computer Sim continues to be one of the most popular classes at Challenge Camp!

28) Crazy Constructions Session 1
1:00 & 2:00
 Grades K-1

Does your child love to build? Join us for an engineering adventure creating crazy, interactive projects. Design and build towers, bridges, houses, roller coasters, furniture, vehicles and other super structures in this Crazy Constructions class. Together we will examine architecture and engineering projects from around the world and use them to inspire our camp projects. *Taught by Dazzling Discoveries.*
 Construction Fee: \$50

29) Creative Ballet Session 2
11:00
 Grades K-1

Students will be empowered by learning basic ballet steps, while engaging their imaginations, using fun kid-friendly themes and music. Storytelling and creativity are integral to this fun approach to ballet for young children. *Taught by BOLD Arts.*

30) Curious Chef Session 1 & 2
11:00
 Grades K-3

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.

** An adult should assist the camper with this class

31) Dance a Story Session 1
Grades K-1 11:00

In this class, young dancers will bring books and stories to life. Children will dance along and be given a prompt to create their own choreography, using the story. Cha Cha and Tango with *Giraffes Can't Dance*, create flashlight solos with *Firenze's Light*, dive into a painting with *Flyaway Katie*, and more! This class is active, interactive, and filled with opportunities to create. *Taught by BOLD Arts.*

32) Dash Robotics Session 1
Grades 2-5 9:00

Session 2
Grades 2-5 11:00

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.

* Estimated Robot Fee: \$150

33) Debate Club Session 1
Grades 5-9 9:00

Session 2
Grades 5-9 10:00

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.

34) Digital Comics Session 2
Grades 1-4 1:00 & 2:00

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.

** Requires a tablet or mobile device to install the free Comics App

35) Digital Design & Engineering with Fusion 360

Session 1 & 2

Grades 4-9 1:00

Learn to use Fusion 360, the real world digital modeling and engineering program for students who want to learn to design real objects. Fusion 360 is one of the most comprehensive CAD (computer aided design) programs available. Learn 3D modeling and engineering fundamentals and then run simulations to see how your projects would function under real life conditions. All these features are built into the software. You will learn to use Fusion 360's many tools and features and eventually be able to design and test your own products. *Taught by Dazzling Discoveries.*

* Campers must be on a PC or Mac

36) Digital Film Academy

Session 1

Grades 6-9 10:00
3-5 11:00

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!

37) DNAmazing

Session 2

Grades 2-4 9:00
K-1 10:00

Why do you look like your Mom or Dad? Explore your genetic code through exciting hands-on investigation. Your biotech lab will lead you to uncover the blueprints of life. Experiment with a tomato to extract and play with its ooey, gooey DNA. Construct, split and replicate a DNA ladder. Create a family tree and see what traits you share. Analyze DNA evidence to solve a crime. Understand the mysteries of these and other fascinating elements of genetics and how DNA is the building block of all of us.

38) DoodleMatic Game Maker

Session 1 & 2

Grades K-3 9:00 & 10:00

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 its 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

** Requires a tablet or mobile device to install the free Doodlematic App

39) Dr. Goodbody Session 1
Grades 2-4 9:00
K-1 10:00

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.

40) Drone Flight School Session 1& 2
Grades 3-9 9:00 & 10:00

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 receive their own fully-functional drone.

* Estimated Drone Fee: \$300

41) Drone Racing Sim League Session 1 & 2
Grades 4-9 2:00

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!

42) Dungeons & Dragons Session 1 & 2
Grades 3-9 1:00

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.

43) Edison Robotics Session 1
Grades 2-5 1:00

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

44) Engineering Design Thinking with Augmented Reality Session 1
 Grades 3-5 9:00
 5-9 10:00

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.

** Requires a tablet or mobile device to install the free Merge Cube Apps

45) Engineering with Paper Session 1 & 2
 Grades K-1 1:00
 2-3 2:00

Build amazing STEAM projects with one of the most versatile materials available, paper. Explore engineering, architecture and physics while inventing and creating your own toys, games, racetracks, houses and more. You will learn the Engineering with Paper "alphabet" of techniques and how to use that to turn your ideas into projects. Re-using and up-cycling supplies you already have will also be a focus of this class. *Taught by Dazzling Discoveries.*

Engineering Fee: \$20

46) Escape Room Session 1
 Grades 4-9 10:00 & 11:00
Session 2
 Grades 4-9 9:00 & 10:00

Trapped in a digital breakout 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!

47) Extreme Science Session 2
 Grades 2-4 11:00

Uncover the science of wild weather, magic tricks, chemical reactions and simple explosions, gems and minerals, fossils, speed and impact, air pressure, and many other exciting topics in this hand-on science program. Through experiments, demonstrations and activities, campers will explore scientific principles of the world around them. Each day children design and create projects that incorporate the science theme of the day. *Taught by Dazzling Discoveries.*

Extreme Science Kit Fee: \$50

48) Fantastic Beasts Session 2
 Grades 2-9 11:00

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. ** Requires a tablet or mobile device to install the free Stop Motion App

49) Fashion Upcycling

Session 2

Grades	1-3	9:00
	4-9	10:00

Do you have items in your closet that you loved or didn't really love but there's something about it that you like about it and want to change it in some way? You do not have to run to a store to find something really cool to wear, just grab these items and Upcycle it! Students will have 3 projects, one per week to jazz up, bedazzle, re-design, cut and sew, reinvent into a new fashion statement. This is a truly exciting and fun class! See your old boring item come to life again! The transformation is amazing!

50) Fencing

Session 1 & 2

Grades	4-9	1:00
Grades	1-4	2:00

En garde! Learn the exciting Olympic sport of fencing - virtually! 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!

51) Fortnite the Next Level

Session 2

Grades	5-9	11:00
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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 ****

52) Fun with Photoshop

Session 1 & 2

Grades	3-9	10:00
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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.

*Estimated Photoshop License Fee: \$50

53) Galaxy Quest

Session 2

Grades	4-9	10:00
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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!

54) Graffiti Art Skateboard Design Session 1
Grades 3-9 11:00
 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!
 * Estimated Skateboard Fee: \$100

55) Graphic Design Studio Session 2
Grades 4-9 1:00
 In this class, we will explore the methods which graphic designers use to communicate their ideas with impact, including playing with positive and negative space, scale (size,) color, typography and much more. Explore fun activities that will stimulate our creative problem-solving skills. We will discuss examples of creative work by professional designers, get our ideas flowing by making drawings and collages and then work to complete our designs. Projects will include T-shirt designs, posters, and animated graphics. * Estimated Photoshop License Fee: \$50

56) HACKS! Session 1
Grades 4-9 9:00 & 10:00
Session 2
Grades 4-9 9:00
 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.

57) Highly Logical Session 2
Grades 4-9 10:00
 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 making processes 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.

58) The Illusionist Session 1 & 2
Grades 1-3 10:00
 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

59) The Illusionist 2

Session 1 & 2

Grades 4-9 9:00

Would you like to perform like Criss Angel, David Blaine, and David Copperfield? If you do, this is your chance to discover the magic secrets that these and many other professionals use to baffle audiences worldwide. Join Joseph Fields this summer and learn the secrets, the sleight of hand and the proverbial tricks of the trade that helped make these professionals famous. Imagination, individuality and creativity will be encouraged to develop a personal magical act with polished showmanship. Extraordinary and advanced balloon sculpture techniques will be learned! Advanced magical secrets of illusion, levitation and sleight-of-hand will highlight this course as well as presentation and performance before an audience. Enhance your skills and transform yourself into a master illusionist with your personalized magic briefcase full of tricks. Magic Fee: \$50

60) Iron Chef

Session 1 & 2

Grades 4-9 1:00

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.

61) It's a Small World

Session 1

Grades K-2 2:00

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.

62) Junior Entrepreneur

Session 1

Grades 3-5 10:00

5-9 11:00

Session 2

Grades 3-9 11:00

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 will also brainstorm ideas for games and services for the Virtual Challenge Cares Carnival. The money raised will be used for charitable entity chosen by Challenge Camp. Last year's class donated \$2,680.00 to The Pajama Program.

63) Kitchen Chemistry

Session 1

Grades 4-9 10:00

This summer we will be doing fun experiments in your kitchen. As you probably already know, everything that happens when we cook food is a chemical reaction and many ingredients that we use are chemical compounds. Through mixing, dissolving, boiling, cooking and baking we actually perform physical-chemical experiments. So join us and learn how to create bubbles using baking soda and vinegar to make elephant tooth paste or volcano lava, witness color changes with natural pH indicators

such as cabbage juice, make Oobleck and slime, create a lava lamp, make cheese out of milk or sugar lollipops, separate different pigments from a leaf or a sharpie. Behind all these fun and easy experiments there are chemical reactions such as decomposition and synthesis, crystallization and polymerization, reduction-oxidation. We will also learn about physical phenomena such as diffusion and osmosis, optical inversion, chromatography and density.

64) Machine Learning and Artificial Intelligence Session 1 & 2
Grades 4-9 10:00

How do you teach a computer to follow your instructions? Machine learning is the science of getting computers to act without being explicitly programmed. Researchers think it is the best way to make progress towards human-level Artificial Intelligence, and in the past decade, machine learning has given us self-driving cars, practical speech recognition, and effective web search. You will learn to use Google's Teachable Machines software which lets you create computer programs that can make decisions based on setting you "teach" it. You can use images, sounds or motions to control the outcome. *Taught by Dazzling Discoveries.*

65) Magic the Gathering Session 1 & 2
All Grades 2:00

A game battle in which you and your opponent represent powerful sorcerers attempting to drive each other from the lands of Dominia. Your deck holds your tools: creatures, land, spells and artifacts.

66) "A Maleficent Sleeping Beauty" Session 2
Grades 1-4 9:00
4-9 10:00

Before we traveled to Oz, there was Sleeping Beauty and the Magnificently Mean Maleficent. Join our theater company and 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 a virtual performance that will be "Defying Gravity" while rattling your bones and leaving you smiling.

67) Math Explorations Session 1
Grades 2-3 9:00
4-5 10:00
Session 2
Grades 3-5 11:00

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.

68) Memorybook		Session 1
	Grades 3-9	11:00
		Session 2
	Grades 3-9	9:00

Whether you are creating a memory book from a vacation or a memory book of photos of your pets, you will produce a one-of-a-kind scrapbook! Create photographic and interesting accounts of your personal adventures! We will focus on developing a visual masterpiece of your life events, photos, special trips, friends, mementos, and experiences all added to your personalized books. Each camper will design a scrapbook packed with photography, drawings and/or writings to enhance this unique experience. Your scrapbook will reflect your own interests, enthusiasm and personality.

69) Mindful Art		Session 2
	Grades 3-9	1:00

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.

70) Minecraft: Challenge Camp Edition		Session 1
	Grades 3-9	9:00
		Session 2
	Grades 3-5	9:00
	5-9	10:00

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 or 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

71) Mini Ninja Training		Session 1 & 2
	Grades K-3	2:00

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.

72) Mix Masters: The Ones & Twos

Session 1 & 2

Grades 3-9 1:00

Have you ever wanted to be the life of the party? In this workshop, campers will spin into the fast and exciting world of DJing. We will explore software that will enable you to cultivate an epic playlist, and perform in front of a crowd. By learning the fundamentals of cutting and transitioning music tracks to have a cohesive flow, you will become a party rocker! The campers will create DJ sets for a weekly recess dance party.

73) MOMA Painting

Session 2

Grades 3-9 10:00

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.

74) Mummies, Mt. Olympus and Mosaics: Discovering Ancient Civilizations

Session 2

Grades 4-9 9:00
1-3 10:00

Step into a time when papyrus grew along the Nile River and pyramids were built on the horizon in Ancient Egypt; when gods lived high up on Mt. Olympus and the Parthenon was a sacred meeting spot; when gladiators fought in the massive Roman Colosseum and emperors ruled the land in Ancient Rome.

We will explore a different ancient culture each week: Ancient Egypt, Ancient Greece and Ancient Rome. Gods and goddesses, mythology, art, architecture, pharaohs, emperors & kings, pyramids and temples, and much more will be discussed in this thorough and engaging class. Each day explores a different topic or theme within the ancient civilization, and connections between all three ancient cultures, as well as to our modern life, will be made. Virtual field trips to The Metropolitan Museum of Art to view primary objects and artworks will take place regularly. Small, themed projects will be completed each week. *Taught by Museums with Marisa.*

75) Musique Fantastique

Session 2

Grades K-2 2:00

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.

76) Next in Fashion Drawing

Session 1

Grades 3-9 9:00
1-3 10:00

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.

77) Ninja Training

Session 1 & 2

Grades 3-9 1:00

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.

79) One-man Band: Digital Music with GarageBand

Session 1

Grades 3-9 9:00

Session 2

Grades 3-9 11:00

What do your favorite songs all have in common? Chances are they were all made in a recording studio! A "recording studio" can 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.

80) Op Art

Session 1

Grades 3-9 9:00

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!

81) Opening Bell

Session 1 & 2

Grades 5-9 9:00

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!

82) Outside the Box

Session 2

Grades	2-4	9:00
	4-6	10:00

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.

* Estimated Inventor Fee: \$50

83) PC Builders Academy

Session 1

Double Period

Grades	4-9	10:00 & 11:00
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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

84) Photo Finish

Session 1

Grades	3-9	9:00
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Session 2

Grades	3-9	11:00
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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.

85) Pinball Wizard

Session 1 & 2

Grades	3-9	2:00
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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

86) Planes, Trains & Automobiles

Session 2
Grades K-1 9:00
2-3 10:00

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!

*Estimated Supply Fee: \$50

87) Podcast Kidz

Session 1
Grades 3-5 10:00
5-9 11:00

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.

88) Pokemon

Session 1 & 2
All Grades 1:00 & 2:00

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!

89) Pop Art Painting

Session 1
Grades 3-9 2:00

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!

90) PPE Makers

Session 1 & 2
Grades 3-9 1:00

A face covering is the new accessory everyone needs. We'll explore different ways to make a protective face mask without sewing, using things you probably have around the house. Then we'll explore different types of face coverings made with different patterns and materials. Everyone needs a clean one each day, so you can make them for your whole family. Design, Play, Experiment, Fabricate and Donate. Make your very own mask, just the way you want it... and then try a new way you might even like even better! A sewing machine is helpful, but not necessary; they can easily be sewn by hand. You should have the use of an iron and ironing board. No prior sewing experience required. All you need is a desire to make lots of face coverings and face shields.

91) Recycled Art Session 2
Grades K-3 2:00

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.

92) Rock Your Planet Session 2
Grades K-3 1:00

The campers will choose from a variety of environmental activities, all linked to a song or role-play. Such as "Plastic, Paper and Cloth" role-play, "The Garbage Truck", "Eat Something Green" song, "Fortunate" to explore cycles, choices and challenges. They'll be costume making, poster board creating and a lot of "We are the World" fun.

93) Satellite Radio Session 2
Grades 5-9 9:00
2-4 10:00

Tune in to the coolest radio station riding the airwaves. Campers will create their own radio show featuring talk radio, interviews, sports broadcasts and spinning tunes. Musicians will perform "live in our studio." We will explore the history of radio from the great shows of old to current Terrestrial & Satellite radio as well as streaming technology. You will learn creative secrets of audio effects and the "business" of radio. The Campers will write, produce content, and record original broadcasts as well as podcasts. The Satellite Radio broadcast crew will even create "commercials." This class includes plenty of laughs and fun while we learn. This class is hands-on, interactive, fun and educational. Camp Broadcasters will record and produce their own digital broadcasts to share with family and friends as a final project.

94) Science & Engineering Adventures Session 1
Grades K-1 10:00
Grades 2-3 11:00
Session 2
Grades 2-3 10:00
Grades K-1 11:00

Is your child a budding scientist who also loves to invent and build? Through experiments, demonstrations and hands on activities, we will explore real world scientific principles and engineering concepts. From rockets to rainbows, animal habits to architectural wonders, each day your child will design and create projects based on the theme of the day. *Taught by Dazzling Discoveries.*
 Science & Engineering Kit Fee: \$50

95) Science Magic Session 1
Grades K-1 9:00
2-3 10:00

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.

96) Spa Science

Session 1
Grades 4-9 11:00

Come join us in this fun class, learning to make your own natural self-care products from your kitchen counter, using all natural, organic ingredients. We will be making our own natural face and body scrubs, face creams and body moisturizers, face masks, hair shampoo and conditioner, perfumes and body sprays. Use essential oils to make bath salts and bath bombs. Explore the qualities of natural oils such as olive, almond, jojoba, avocado, or beeswax. We can use products from your kitchen from brown sugar, sea salt, lemon juice, dried lavender to rose hips. You will save money and enjoy all organic, natural, no artificial additives products to care for your body that you personally create.

* Estimated Spa Fee: \$60

****Not recommended for campers with allergies or skin sensitivities.****

97) Spanish Fiesta

Session 2
Grades K-2 11:00

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 virtual trip together.

98) Stop Motion Laboratory

Session 1
Grades 3-6 11:00
Session 2
Grades 3-6 10:00 & 2:00

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.

** Requires a tablet or mobile device to install the free Stop Motion App

99) Super Science

Session 2
Grades K-1 10:00

Explore the why and how of the world around us. Through hand-on science activities and experiments, children will have fun while learning about science in their daily lives. Together we will explore rainbows, gravity, sound, senses, nature, weather, motion, magnetism, outer space, and other real life topics. Each day children design and create projects that incorporate the science theme of the day.

Taught by Dazzling Discoveries.

Super Science Kit Fee: \$50

100) Tinker Garage

Session 1
Grades 4-9 11:00 & 1:00

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.

* Estimated Tinker Fee: \$100

101) Toy Inventors Workshop

Session 1
Grades 2-3 10:00
K-1 11:00

Makers and inventors wanted. Think it, design it, build it in this hands-on interactive class. Using STEM principals of science, technology, engineering and math, kids will learn about "how things work" as they take ordinary supplies and transform them into games, toys and projects. Learn about engineering and physics while inventing and creating. We will explore the mechanics of familiar objects and apply the concepts to create projects. *Taught by Dazzling Discoveries.*

Toy Inventors Kit Fee: \$50

102) Vive La France!

Session 1
Grades 1-4 1:00

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!

103) VR Explorers

Session 1 & 2
Grades 4-9 9:00

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!

* Campers must be on a PC or Mac

104) Wix Web Design

Session 1 & 2
Grades 3-9 1:00

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.

105) "Wizard of Oz" Session 1
Grades 1-4 9:00
4-9 10:00

This summer lets travel "Over the Rainbow" as we "Follow the Yellow Brick Road" and celebrate the 80th anniversary of one of the greatest stories ever told "The Wizard of Oz." Join our exciting Challenge Camp production following Dorothy, Toto, Scarecrow, Lion and Tin Man on their way to the Emerald City. We sing and dance to all of your favorites including "You're Off to see the Wizard" and "If I Only Had a Brain" and end with a modern nod to the ingenious prequel performing "For Good" from Wicked. At the conclusion of the session there will be a spectacular virtual production.

106) Yoga and Mindfulness Session 1 & 2
All Grades 1:00

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.

107) YouTube Content Creator Session 1
Grades 4-9 9:00

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.

108) Zoom to Algebra Session 1 & 2
Grades 5-9 11:00

For campers that are in pre-Algebra or want to expand their knowledge, Zoom to Algebra highlights essential topics and concepts. Algebra is logical thinking about numbers that can be applied to solving real life problems. We will dive into topics including real number operations, linear and quadratic equations, factoring, and exponents. We can these techniques as a foray into the lighter side of mathematics using logic, magic squares, Sudoku, cryptarithms and so much more cool stuff that can be achieved with these skills! Join us for a math adventure as we Zoom to Algebra.

109) Summertime Treats Session 1 & 2
Grades 4-9 2:00

Baking is a creative, edible expression of happiness. We will incorporate math skills as we measure, mix and divide our way through baking techniques for decadent summertime treats such as pop tarts, s'mores cups, fresh fruit ice pops, chocolate covered fruit sticks, chocolate chip cookie ice cream sandwiches, and more!

110) SuccessMaker Reading & Math

Session 1 & 2
Grades K-2, 3-5, 6-8 1:00 & 2:00
Extended Day Option 3:00

This class combines live coaching and game-based learning in reading and math. For campers interested in accelerating these skills in an engaging way, the SuccessMaker Reading and Math program from Pearson Education is designed to support and challenge learners. During brief sessions on the digital platform, SuccessMaker continuously adapts learning based on each click and swipe. The program automatically provides immediate feedback and related supporting skills exercises. Be prepared to climb to new heights with SuccessMaker Reading and Math!

Campers enrolled in this class will receive a discount coupon for one-year access to SuccessMaker through an exclusive opportunity provided by the National Education Foundation and Challenge Camp.

111) Expository Writing: Take a Step Ahead

Session 1 & 2
Grades 5-9 10:00 & 11:00

Intriguing ideas need to be explored through writing and research. Building on what you know about writing, this course will challenge you to communicate more effectively. Group writing instruction, one-on-one meetings via coaching breakout sessions, guided peer editing and personal feedback on your writing projects are all part of the mix. Make better written arguments. Write more clearly. Research more productively. Your camper will be a more effective and confident writer after this course.

112) Animation by Woz

Session 1 & 2
Grades K-2 1:00
Extended Day Option 3:00

Here's a chance to get your creative juices flowing and dip your toe into animation. This project based learning opportunity in stop-motion animation uses Play-Doh, household materials, a mobile phone and your child's imagination. Animation by Woz, designed by Apple cofounder Steve Wozniak and his team, recommends that a parent work together with their child to complete activities led by the instructor. The course materials are also designed enable use anytime by parents and children outside of class time.

** Requires a tablet or mobile device to install the free Stop Motion App

113) Cybersecurity by Woz

Session 1 & 2
Grades 3-7 2:00
Extended Day Option 3:00

Cybersecurity by Woz, designed by Apple cofounder Steve Wozniak and his team, teaches the foundations of cybersecurity and cryptography. Through the use of mazes and word games, campers learn code-breaking, how to create secure passwords and protect personal information, and the fundamentals of two-factor authentication. This independent learning opportunity is offered through partnership with WozED and the National Education Foundation.

114) Data Science by Woz

Session 1 & 2
Grades 6-9 3:00

Data Science by Woz, designed by Apple cofounder Steve Wozniak and his team, uses spreadsheets, charts, maps, diagrams and Stephen King to teach data science and visualization.