

2021 – Challenge Camp Classes by Cohort

Challenge Camp



A Summer of Fun and Learning, too!

This is our Challenge Camp class schedule for Session 2 by Cohort. The schedule is subject to change for compliance with State and County Health Department guidelines.

- 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 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 3-4 class selections during each period pending guidance on cohort size from the State and County Health Departments.**
- 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 planning on 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. **If your camper is taking a class requiring technology, a Technology Fee will be added to your invoice.**
- 6) If you need assistance or have any questions, please email info@challengecamps.com or call the camp office 914-779-6024.

Challenge Camp – Session 2 Classes by Cohort

Explorers – campers that are currently in Kindergarten or 1st Grade the 2020-21 school year

32) Adventures in Art

Instructor: Anne O'Connor

Session 2 9:00

Grades K-1

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!

20) LEGO Tech Junior

Instructor: Michelle Hessing

Session 2 9:00

Grades K-1

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 is 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

45) Weird and Wacky Experiments

Instructor: Michael Donovan

Session 2 9:00

Grades K-1

Be a nutty professor and join us in the science lab for weird and wacky experiments! We will discover what makes popcorn pop, soda fizz, ice cream melt, form Oobleck and more! Through hands-on experimentation, Campers in this lab will explore the "how", "why" and "what-if" of scientific principles. Young experimenters will learn skills for problem solving, creative thinking, decision making, measuring and classifying materials. We will address of basic scientific concepts by combining kitchen chemistry, nature, a little bit of magic and lots of fun!

31) A Bug's Life

Instructor: Al Pearlman

Session 2 10:30

Grades K-1

Ugh! A bug! Bugs don't bug us! Are you just "buggy" about the lives of insects? Then come join us we explore the amazing world of entomology. This course will be an exciting hands-on approach to studying insects. Watch caterpillars grow into colorful lively butterflies! Observe a ladybug lay egg on a leaf. Experience the incredible process of how silkworms produce silk. Fun activities include going on an insect hunt, constructing your own butterfly house, creating an insect book, designing a bug mobile, a bug game and more.

8) Checkmate
Instructor: Anatoly Tonkonogy

Session 2 10:30
Grades K-1

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.

44) Rainbow Fish
Instructor: Lida Zimmerman

Session 2 10:30
Grades K-1

Join us in a discovery of the magical ocean as we explore the colorful world of the Rainbow Fish, created by Marcus Pfister and his beautifully crafted books. We will explore the themes and illustrations of the shiny scaled rainbow fish who finds friendship and happiness when he learns to share. We will work with various art materials and decorations to recreate the characters we love and create some underwater adventures of our own.

Pioneers – campers that are currently in 2nd or 3rd Grade the 2020-21 school year

31) A Bug's Life

Instructor: Al Pearlman

Session 2 9:00

Grades 2-3

Ugh! A bug! Bugs don't bug us! Are you just "buggy" about the lives of insects? Then come join us we explore the amazing world of entomology. This course will be an exciting hands-on approach to studying insects. Watch caterpillars grow into colorful lively butterflies! Observe a ladybug lay egg on a leaf. Experience the incredible process of how silkworms produce silk. Fun activities include going on an insect hunt, constructing your own butterfly house, creating an insect book, designing a bug mobile, a bug game and more.

8) Checkmate

Instructor: Anatoly Tonkonogy

Session 2 9:00

Grades 2-3

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.

35) Edison Robotics

Instructor: Danielle Spano

Session 2 9:00

Grades 2-3

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. Students will take home their kit to continue exploring with Edison.

Robot fee: \$50

39) Jungle Safari

Instructor: Lida Zimmerman

Session 2 9:00

Grades 2-3

Let's go on safari as the fascinating jungle ecosystem of unique and wild animals, plants and nature will come to life in this imaginative art class. Students will enjoy books about jungles, rainforests and animals and create their own works of art including leaves, plants, frogs, snakes, elephants, giraffes, lions and more!

33) Architecture and Design with 3Dux
Instructor: Jen Roche

Session 2 10:30
Grades 2-3

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

17) The Illusionist
Instructor: Joseph Fields

Session 2 10:30
Grades 2-3

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

19) LEGO Tech
Instructor: Michelle Hessing

Session 2 10:30
Grades 2-3

Do you want to know how things work? Do you ask the question "why" often? Do you dream of tomorrow? Then come and enjoy "Lego's Simple and Motorized Mechanisms." This course is designed to give campers an understanding of machines, mechanisms, structures, and mechanical advantage. You will explore the world of technology by studying and building projects that use renewable and alternative energy sources such as wind, solar power, water and your own body. You will investigate energy supply, transfer, accumulation, conversion and consumption through hands-on activities and exciting real life models. You are the engineer, you design, you build, you turn your dreams into reality.

Lego Fee: \$25

45) Weird and Wacky Experiments
Instructor: Michael Donovan

Session 2 10:30
Grades 2-3

Be a nutty professor and join us in the science lab for weird and wacky experiments! We will discover what makes popcorn pop, soda fizz, ice cream melt, form Oobleck and more! Through hands-on experimentation, Campers in this lab will explore the "how", "why" and "what-if" of scientific principles. Young experimenters will learn skills for problem solving, creative thinking, decision making, measuring and classifying materials. We will address of basic scientific concepts by combining kitchen chemistry, nature, a little bit of magic and lots of fun!

Innovators – campers that are currently in 4th or 5th Grade the 2020-21 school year

33) Architecture and Design with 3Dux

Instructor: Jen Roche

Session 2 9:00

Grades 4-5

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

18) The Illusionist 2

Instructor: Joseph Fields

Session 2 9:00

Grades 4-5

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

40) Junior Entrepreneur

Instructor: Sid Jain

Session 2 9:00

Grades 4-5

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.

22) Minecraft: Challenge Camp Edition
Instructor: Geoffrey Byrne

Session 2 9:00
Grades 4-5

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 material 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

25) Photo Finish
Instructor: Liz Steger-Hartzman

Session 1 9:00
Grades 4-5

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 fully charged digital camera or cell phone camera. Each day, 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.

43) Radical Chemistry
Instructor: Michael Nathenson

Session 2 9:00
Grades 4-5

In this course we will learn about how chemistry plays a role in our everyday life. We will learn about crystallization by studying rock candy, exothermic reactions by making elephant's toothpaste and acid base reactions by blowing up a balloon with a water bottle. We will also learn about physical phenomena such as diffusion and osmosis, optical inversion, chromatography and density by observing chemical reactions. Join us in the lab for an enlightening, hands-on experience and learn science that is totally radical!

1) 3D Printing Lab
Instructor: Nik Kuryla

Session 2 10:30
Grades 4-5

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 to assemble and troubleshoot issues. They will be taught how to navigate a variety of 3D design software including the TinkerCad, Fusion 360, Cura, and Meshmixer to develop their own 3D models. Along with learning the practical skills, this course will inform the students on the background and future of the 3D printing industry. 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 Filament Fee: \$350

13) Drone Flight School
Instructor: Grace Cantwell

Session 2 10:30
Grades 4-5

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

35) Edison Robotics
Instructor: Danielle Spano

Session 2 10:30
Grades 4-5

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. Students will take home their kit to continue exploring with Edison.

Robot fee: \$50

36) Fantastic Beasts
Instructor: Anne O'Connor

Session 2 10:30
Grades 4-5

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.

41) Paint the Masters
Instructor: Ana Saura

Session 2 10:30
Grades 4-5

A beautiful and fun painting class inspired by great artists of Surrealism and Cubism. We will study works by masters like Joan Miro, using his abstract shapes and colors and Fernando Botero, imitating his rotund whimsical figures. George Braque and Picasso will show us their approach to represent reality and points of view. After soaking up all of the genius, we will create three unique paintings based upon these incredible artist's works incorporating our own creative style.

42) Podcast Kidz
Instructor: Sean Rivera

Session 2 10:30
Grades 4-5

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.

46) YouTube Content Creator
Instructor: Anne Pasquale

Session 2 10:30
Grades 4-5

Like and subscribe to this inventive class and show off your creative talent. From story planning, camera, lighting and on-air prep to developing a safe platform profile, campers will have a chance to create content for various portions of our Challenge Camp YouTube Channel! Segments may include: Camp News and Events Reports, How-To Videos where campers can show off share their skills, Lip Sync Videos, Happy Birthday Shout Outs for friends and family, and Tales of Adventure - real or imagined and more! The course will give campers the digital skills of basic video editing and proper green screen use. Join us for this super creative and fun streaming experience!

Trailblazers – campers that are currently in 6th Grade and up the 2020-21 school year

1) 3D Printing Lab
Instructor: Nik Kuryla

Session 2 **9:00**
Grades 6+

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 to assemble and troubleshoot issues. They will be taught how to navigate a variety of 3D design software including the TinkerCad, Fusion 360, Cura, and Meshmixer to develop their own 3D models. Along with learning the practical skills, this course will inform the students on the background and future of the 3D printing industry. 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 Filament Fee: \$350

34) Code Central: Java
Instructor: Neil Grand

Session 2 **9:00**
Grades 6+

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.

13) Drone Flight School
Instructor: Grace Cantwell

Session 2 **9:00**
Grades 6+

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

37) Hacks!
Instructor: Hudson Apotheker

Session 2 **9:00**
Grades 6+

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.

Hacks! Fee: \$75

42) Podcast Kidz
Instructor: Sean Rivera

Session 2 **9:00**
Grades 6+

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.

46) YouTube Content Creators
Instructor: Anne Pasquale

Session 2 **9:00**
Grades 6+

Like and subscribe to this inventive class and show off your creative talent. From story planning, camera, lighting and on-air prep to developing a safe platform profile, campers will have a chance to create content for various portions of our Challenge Camp YouTube Channel! Segments may include: Camp News and Events Reports, How-To Videos where campers can show off share their skills, Lip Sync Videos, Happy Birthday Shout Outs for friends and family, and Tales of Adventure - real or imagined and more! The course will give campers the digital skills of basic video editing and proper green screen use. Join us for this super creative and fun streaming experience!

16) Fun with Photoshop
Instructor: Liz Steger-Hartzman

Session 1 **10:30**
Grades 6+

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 Fee: \$50

7) Challenge Makerspace
Instructor: Hudson Apotheker

Session 2 **10:30**
Grades 6+

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

22) Minecraft: Challenge Camp Edition**Instructor: Geoffrey Byrne****Session 2****10:30****Grades 6+**

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.

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