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OMSI Summer Classes 2022
2022 Summer Day Camps

OMSI is excited and ready for another summer of fun for K–8 students with socially distanced day camps that help build critical thinking skills, social skills, and put science at the center of problem-solving. We have successfully run day camps and child care throughout the pandemic, including summer 2020 and summer 2021, and we will continue to apply this knowledge and expertise in summer 2022. Day camps will be in stable groups and offer subjects like dinosaur hunting, astronomy, animation, science of soccer and more.

Registration Opens February 14th 2022: https://omsi.edu/camps-and-classes

Location:
Oregon Museum of Science and Industry
1945 SE Water Avenue
Portland, Oregon 97214

Grades K-1

AT THE SEASHORE
Dive in and make some waves as you explore how land and water come together at the seashore! You will investigate sandy beaches, shells, fish, whales and other mysterious creatures of the sea. You will even walk inside a model of a 50-foot whale!

CRITTER SEEKERS
Is a bald eagle really bald? Where do beetles live? Discover the answers! You will become amateur entomologists and ornithologists as you explore creatures of air, land and pond. You'll even make bird feeders and learn how to invite beneficial and beautiful wildlife into your own backyard.

DINOSAUR HUNTERS
You're on the hunt— for dinosaurs! Learn about the fascinating world of dinosaurs by piecing together dinosaur puzzles and digging for bones like a paleontologist. We'll be asking questions like “What colors were dinosaurs? How did they move? Did they care for their young?” and discovering how scientists figure out the answers. This class includes a field trip to OMSI’s Earth Science Hall.

KITCHEN CHEMISTRY
Turn your inner chef into a kitchen chemist! In this edible chemistry adventure, you’ll explore the science of cooking as we make muffins and “munch, munch” more! Discover the strange substance produced when mixing cornstarch and water, and learn the difference between a tablespoon, a teaspoon and other key kitchen measurements. Note: Please consider any food allergies before enrolling.

OUTER SPACE ADVENTURE
Blast off to fun! Learn about our solar system to discover what makes earth so special, how moon phases work, and why we have night and day! Ask big questions about the universe and get your hands dirty with crater models as you become a top notch astronomer. You will even visit OMSI’s Kendall Planetarium to explore our fascinating universe from constellations to a crescent moon! Don’t miss the adventure launching this summer!
P.E.T.S.: PET EDUCATION TRAINING SCHOOL
Are you a dog person or a cat person? Find out as you learn to care for some of the neatest and wildest pets around. From Ants to Zebra Finches, and everything in between, you will discover more than you ever thought possible about pets big and small. This class will even include animal visitors.

SCIENCE MAGIC
Step right up! Step right up! Take a look at how magical science can seem! Wonder at bubbling potions and marvel at levitating objects as you discover the science that makes it all work. Try your hand at making color changing creations, moving unmoving seeming objects, sending astounding messages, and revealing unseen images. From chemistry to physics you will master much to become a science magician!

WILD INVENTIONS
What will you think of next? Put your imagination to the test as you brainstorm and build some exciting creations. You will visit OMSI's Turbine Hall to get inspiration and learn about concepts as you become a young inventor. You won't want to miss this opportunity to think big and make your dreams a reality.

Grades 2-3

3-2-1 BLAST OFF!
Do you have what it takes to be an astronaut? Yes! From building and launching your own rocket to learning how to track a rocket's flight, your countdown to summer begins with this blast of a class!

ANIMATION 2-3
Quiet on set! Look at animation from the director’s chair. You will design storyboards, create sets and characters, and produce mini-movies. How? You'll get hands on experience with digital video cameras, clay sculptures, time-lapse portraits, and more; then share and download your movie in full HD to show your friends and family. Specific links will be supplied each class.

AWESOME ASTRONOMY
Stars, constellations, and nebula—oh my! Do you know how high you can jump on the Moon? Or how to tell time with the sun and stars? Unlock the stories of your favorite constellations—and the science behind them—this summer with the OMSI planetarium team.

COOKING UP SCIENCE
Summer just got a little tastier! Bite into the science of cooking and nutrition, and the chemistry concepts that make food so fascinating (and delicious). During this class you will visit the OMSI Chemistry Lab to learn more about the science of food and may even visit with a local food production company. Enjoy!

COOL CONCOCTIONS
Chemistry takes a fun twist as you mix, measure and pour chemicals into amazing (and sticky) combinations. You’ll grow crystals, make slimes, create dye, and even make experiments you can eat! The class will also visit with OMSI's chemistry lab educators. This week will have you looking at chemistry in a wild new way.

DESIGN STUDIO
Want to be a scientist or an artist? Why not be both! Think creatively and cleverly as you work to complete engineering-design challenges that include building model roller coasters, race cars, and flight suits. Students will solve problems, build creations, and even bring some of their own inventions to life in this exciting introduction to the engineering-design process. This class includes a visit from the OMSI Innovation Lab educators.

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DIGITAL DESIGN

Are you into computers? Get into digital design where you can use your passion to become a programmer, artist, and engineer! Get your creative computer juices flowing as you design tee-shirts, compose music, create a virtual car and more! This experience is prefect for students at all levels of computer know-how.

DINOSAUR DISCOVERIES

Get ready for a wild week as you go on a Jurassic adventure into the age of dinosaurs! How do scientists know what dinosaurs looked like? What did they eat? How fast could they run? Find out as you visit with OMSI's Paleontology lab educators and embark on other prehistoric explorations.

EXPLOSIVE VOLCANOES!

Ever seen a volcano erupt? Now is your chance! Dig into this geologic adventure with visits from OMSI's Earth Science educators included. You’re sure to take home at least one geologic treasure of your own.

GROSSED OUT *NEW*

Do you want to be grossed out? Come join a yuck-filled week where we will explore the science behind burping, grow your own mold, form and pick model scabs, and even dissect a real cow eyeball! Figure out whose poo is who or how germs spread in this superbly disgusting class. Don’t forget to take home your ickiest creations to enjoy all year long!

LEGO® BUILDING BLOCKS

Can you really do science with LEGO? Of course you can! Experiment with LEGO bricks as we explore engineering and physics concepts. From building fast-moving feats of science to visualizing the tiniest bits of matter, you'll look at the world—and LEGO—differently than ever before.

LEGO® WEDO ROBOTICS

Get started with robotics early! Using the most advanced LEGO 2.0 WeDo Construction kits you will develop a love of robotics while working cooperatively to code and build using motors, sensors, gears, pulleys, and more. Get your hands on this exciting new technology this summer!

Grades 4-5

ANIMATION 4-5

Quiet on set! Look at animation from the director’s chair. You will design storyboards, create sets and characters, and produce mini-movies. How? You’ll get hands on experience with digital video cameras, clay sculptures, time-lapse portraits, and more; then share and download your movie in full HD to show your friends and family. Specific links will be supplied each class.

BIKE PDX 4-5

Grab your helmet and get ready to ride! Bike neighborhood parks and learn basic navigation and maintenance skills this summer with OMSI and the Community Cycling Center. Traveling the city by bike has never been so fun as you build on your riding confidence and skills on the road. Note: Students should know the basics including starting, stopping and riding in a straight line. Ride distances will vary from 4 to 15+ miles, depending on the skill level of the group. A bicycle safety inspection is required prior to the start of class and a multi-gear bike is highly recommended. Participants will receive an email from the Community Cycling Center with more details prior to the class. The Community Cycling Center is a nonprofit organization dedicated to broadening access to bicycling and its benefits. Learn more at communitycyclingcenter.org.

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DIGITAL BOOTCAMP 4-5
Become the next digital rockstar! You will learn the simple, cutting-edge design techniques for your own web page, blog, photo gallery, and more! You’ll understand the languages and codes that link computers all over the world, and build the web design skills you need to tell your stories!

DRONE PILOT TRAINING 4-5
Let your passion for drones take flight! Your excitement will soar while exploring do-it-yourself building techniques, honing programming expertise, completing flight challenges, and learning aerial photography skills.

GAMES GALORE 4-5
Calling all gamers! Maybe you hold all of the high scores but do you have what it takes to design your own video game? Of course you do! Your work will come to life with characters that move and interact in a compelling video game world thanks to your own game development skills.

LEGO® MACHINES
Hey there LEGO lovers! Design and create a catapult while you learn the physical forces at work in simple and complex machines—all with LEGO bricks. Use a lever, inclined plane, wheel and axle, and pulley to construct a variety of exciting machines.

LEGO® ROBOTICS 4-5
Build essential STEM skills with the brand new set of LEGO Robotics! The LEGO Mindstorms Robot Inventor is the newest generation in the acclaimed Mindstorms series. With a new programming interface and expanded motor and sensor capabilities, you will not want to miss this class. Learn the basics of coding and the essentials of robotic engineering while you program and play with the latest kit from LEGO robotics!

NATURAL DISASTERS UNLOCKED
Somewhere the ground is rolling and a mountain is shaking—where are you? At OMSI! Learn all about the science behind avalanches, volcanoes, and earthquakes this summer. Take a deep look at natural disasters common in the Pacific Northwest to experience the history and beauty of volcanoes.

PICKING UP STEAM *NEW*
Are you an artist who loves science? Or a scientist who loves art? Learn about the world of STEAM – science, technology, engineering, art, and math! Discover the connection between science and art then use your creativity to make artwork based on your scientific discoveries. You will learn about the science of color and perception, the beauty of mathematics in fractals, engineer a scribbling art robot, and even discover the impact that artist renderings have had on scientific understanding throughout human history.

SCIENCE OF SOCCER
Ever wonder about the science behind what you see on the pitch at Providence Park? Why does the ball curve on a corner kick? How quickly does a goalkeeper need to react to make a save? The Science of Soccer is your chance to see how science, technology, engineering, art and math are revolutionizing the game. No cleats needed though -- this week you will be using your mind to dissect and better understand the sport.

TRAIN ENGINEER 4-5
All aboard for a rail adventure! Explore historic steam and diesel locomotives to reveal the marvels of engineering behind these behemoth machines. Become an engineer designing trains of the future or sit down as a city planner integrating multi-modal transport into your town. See the rail transport industry as you’ve never seen it before! This class will include a potential field trip on a train. Parent will receive the week’s schedule two weeks prior to the first day of class. This class is hosted in collaboration with the Oregon Rail Heritage Center.

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Grades 4-8

ANIMATION II
Take your animation skills to the next level! Bring your stop-motion ideas and animated designs to life, continue a mini-movie or start with a fresh, new project. We’ll sample advanced techniques, expand on familiar practices, and continue to welcome all types of skill levels, knowledge and creative styles. Note: This advanced class is for students in grades 4-8 who have completed the “OMSI Animation” class.

DRONE PILOT TRAINING (GIRLS ONLY)
Calling all girls! Let your passion for drones take flight! Your excitement will soar while exploring do-it-yourself building techniques, honing programming expertise, completing flight challenges, and learning aerial photography skills.

GAMES GALORE (GIRLS ONLY)
Calling all girls! Maybe you hold all of the high scores but do you have what it takes to design your own video game? Of course you do! Your work will come to life with characters that move and interact in a compelling video game world thanks to your own game development skills. Note: This class is for students in grades 4-8.

GAMES GALORE II
Take gaming to the next level! You mastered the first round of Games Galore, now build on those skills. Challenge yourself to master how computers and keyboards interact to control programs. Using programming tools to add running scores, life meters and other features, you’ll make your games even more interactive! Note: This advanced class is for students in grades 4-8 who have completed the OMSI Games Galore class.

LEGO® ROBOTICS (GIRLS ONLY)
Calling all girls! Build essential STEM skills with the brand new set of LEGO Robotics! The LEGO Mindstorms Robot Inventor is the newest generation in the acclaimed Mindstorms series. With a new programming interface and expanded motor and sensor capabilities, you will not want to miss this class. Learn the basics of coding and the essentials of robotic engineering while you program and play with the latest kit from LEGO robotics! Note: This class is for students in grades 4-8.

LEGO® ROBOTICS II
Build essential STEM skills with the brand new set of LEGO Robotics! The LEGO Mindstorms Robot Inventor is the newest generation in the acclaimed Mindstorms series. With a new programming interface and expanded motor and sensor capabilities, you will not want to miss this class. Learn the basics of coding and the essentials of robotic engineering while you program and play with the latest kit from LEGO robotics! Note: This advanced class is for students in grades 4-8 who have completed an intro to LEGO Robotics class.

LEGO® ROBOTICS II (GIRLS ONLY)
Calling all girls! Build essential STEM skills with the brand new set of LEGO Robotics! The LEGO Mindstorms Robot Inventor is the newest generation in the acclaimed Mindstorms series. With a new programming interface and expanded motor and sensor capabilities, you will not want to miss this class. Learn the basics of coding and the essentials of robotic engineering while you program and play with the latest kit from LEGO robotics! Note: This advanced class is for students in grades 4-8 who have completed an intro to LEGO Robotics class.
# Grades 6-8

## ANIMATION 6-8
Quiet on set! Look at animation from the director’s chair. You will design storyboards, create sets and characters, and produce mini-movies. How? You’ll get hands on experience with digital video cameras, clay sculptures, time-lapse portraits, and more; then share and download your movie in full HD to show your friends and family. Specific links will be supplied each class.

## BIKE PDX 6-8
Grab your helmet and get ready to ride! Bike neighborhood parks and learn basic navigation and maintenance skills this summer with OMSI and the Community Cycling Center. Traveling the city by bike has never been so fun as you build on your riding confidence and skills on the road. Note: Students should know the basics including starting, stopping and riding in a straight line. Ride distances will vary from 4 to 15+ miles, depending on the skill level of the group. A bicycle safety inspection is required prior to the start of class and a multi-gear bike is highly recommended. Participants will receive an email from the Community Cycling Center with more details prior to the class. The Community Cycling Center is a nonprofit organization dedicated to broadening access to bicycling and its benefits. Learn more at communitycyclingcenter.org.

## CODING GRADES 6-9
If you can dream it – you can code it! Get started on the right foot learning the ins and outs of programming. Students will explore visual languages and get an introduction to many of the most commonly used programming methods. Throughout the week you will complete challenges and build skills to increase your confidence in computer science.

## CODING (GIRLS-ONLY) GRADES 6-9
Calling all girls! If you can dream it – you can code it! Get started on the right foot learning the ins and outs of programming. Students will explore visual languages and get an introduction to many of the most commonly used programming methods. Throughout the week you will complete challenges and build skills to increase your confidence in computer science.

## CODING II GRADES 6-9
Take your coding skills to the next level! Gain software development, design, programming and coding know how. Student will explore C#, C++, JavaScript/HTML web application development, and Java programming languages. Students will work on challenges and practice real-world scenarios to gain the critical skills needed to shape the future. Note: This advanced class is for students with substantial prior experience or who have already completed the OMSI Coding class.

## DIGITAL BOOTCAMP 6-8
Become the next digital rockstar! You will learn the simple, cutting-edge design techniques for your own web page, blog, photo gallery, and more! You’ll understand the languages and codes that link computers all over the world, and build the web design skills you need to tell your stories!

## DRONE PILOT TRAINING 6-8
Let your passion for drones take flight! Your excitement will soar while exploring do-it-yourself building techniques, honing programming expertise, completing flight challenges, and learning aerial photography skills.

## FSI: FORENSIC SCIENCE INVESTIGATOR
Sherlock Holmes has some competition—you! Lift prints, examine DNA, and use a variety of other forensic techniques to learn what it takes to solve crime. You will even visit with a real police department as you discover the world of modern forensics.

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GAMES GALORE 6-8
Calling all gamers! Maybe you hold all of the high scores but do you have what it takes to design your own video game? Of course you do! Your work will come to life with characters that move and interact in a compelling video game world thanks to your own game development skills.

LEGO® ARCHITECTURE & CITIES
What does it take to build the world’s strongest city? We’re using your favorite colorful bricks—LEGO—to break down city planning, civil engineering, and the world of design. After learning about earthquakes and how to construct buildings to withstand them, we’ll team up to build the world’s strongest city, visiting OMSI’s Turbine Hall for information and inspiration.

LEGO® ROBOTICS 6-8
Build essential STEM skills with the brand new set of LEGO Robotics! The LEGO Mindstorms Robot Inventor is the newest generation in the acclaimed Mindstorms series. With a new programming interface and expanded motor and sensor capabilities, you will not want to miss this class. Learn the basics of coding and the essentials of robotic engineering while you program and play with the latest kit from LEGO robotics!

TABLETOP GAME DESIGNER *NEW*
Do you love board and card games?! Leave your screens and video games behind as you jump into the world of tabletop games! Explore ancient games from cultures across the world to figure out how they influence games we play today. Learn to balance probability, strategy, and luck, to create and playtest your own original game with fellow gamers. Make your own custom resin dice, game pieces, and boards with our games workshop then bring your family and friends together to play at home!

TRAIN ENGINEER GRADES 6-8
All aboard for a rail adventure! Explore historic steam and diesel locomotives to reveal the marvels of engineering behind these behemoth machines. Become an engineer designing trains of the future or sit down as a city planner integrating multi-modal transport into your town. See the rail transport industry as you’ve never seen it before! This class will include a potential field trip on a train. Parent will receive the week’s schedule two weeks prior to the first day of class. This class is hosted in collaboration with the Oregon Rail Heritage Center.