



SUMMER CAMPS 2023

Book single days or the full weeks from 9.30-3.30 (free early drop-off from 8.30), <https://www.littlehouseofscience.com/timetable/>, For ages: 4-7 and 8-12 years (separately taught, age-adjusted content)

Location: Holiday Inn London - High Street Kensington, Ground Floor, Wrights Lane, London W8 5SP (2 mins High Street Kensington Tube and 10 mins from Earl's Court Station), secure garden area for outdoor activities during lunch breaks.

CLASSROOM-BASED HOLIDAY CAMP INFORMATION

- Weekly/daily holiday camps run from 9.30-3.30, (free early drop-off from 8.30 am)
- Our holiday camps are completely hands-on & project-based throughout each day
- Your children will be grouped & taught separately by ages/ability and will be assisted during all experiments
- Our teachers are fully vaccinated & have enhanced DBS checks in place
- We have a very high teacher/child ratio during all camp days (1:6)
- All workshops are fully risk assessed
- Regular and accompanied breaks for refreshments and outdoor activities (weather permitting)
- PLEASE NOTE: Lunch/2 snacks have to be provided by the parents, due to the different dietary requirements.
- ****WE DO NOT ALLOW ANY NUTS, SEEDS, OR EGGS IN THE ROOM**!**

1. **Mon-Fri, 10-14 July 2023 - *Scientific Journey to the Center of Biology***
2. **Mon- Fri, 17-21 July 2023 - *Space Rocks: Planets, Galaxies, Black Holes, and Space Travel***
3. **Mon-Fri, 24-28 July 2023 - *Amazing Biomimicry and the Science on Innovation***
4. **Mon-Fri, 31 Jul -4 August 2023 - *How Engineers Change the World***
5. **Mon-Fri, 7-11 August 2023 - *The Wonderful Words of Chemistry***
6. **Mon-Fri, 14-18 August 2023 - *Introduction in Medical Science***
7. **Mon-Fri, 21-25 August 2023 - *From Big Bang to the Modern World***



Week 1: Scientific Journey to the Centre of Biology

Day 1: Mon-Fri, 10-14 July 2023 *Scientific Journey to the Centre of Biology*

- *From Amoeba to humans*
- *The Life of the Cell: the Perfect Mini Factory*
- *The Secret of Mitochondria*
- *Lynn Margulis and symbiosis*

Day 2: Mon-Fri, 10-14 July 2023 *Scientific Journey to the Centre of Biology*

- *Robert Hook and the Invention of the Microscope*
- *Viruses: are Aliens Living Amongst Us?*
- *Microorganisms and their Importance*
- *What is vaccination and why we need it?*
- *Who was Edward Jenner?*

Day 3: Mon-Fri, 10-14 July 2023 *Scientific Journey to the Centre of Biology*

- *What are nutrients?*
- *Digestive Ride*
- *Respiratory System in Humans and Animals*
- *Five senses in Human and Animals*

Day 4: Mon-Fri, 10-14 July 2023 *Scientific Journey to the Centre of Biology*

- *What is Calcium: Skeletons and Teeth*
- *Hearing and Vision in the Animal World*
- *Why our Brain is so special*
- *Cold Blooded vs Warm Blooded*

Day 5: Mon-Fri, 10-14 July 2023 *Scientific Journey to the Centre of Biology*

- *Platypuses: the most Mysterious Animals*
- *How Animals adapt to extreme Conditions*
- *The Story of Evolution and where it takes us*
- *Can we become an Interplanetary species?*



Week 2: Space Rocks: Planets, Galaxies, Black Holes, and Space Travel

Day 1: Mon- Fri, 17-21 July 2023 Space Rocks: Planets, Galaxies, Black Holes, and Space Travel

- *The story of the Big Bang*
- *The Lifecycle of Stars*
- *Stephen Hawking or story of the Black Hole*
- *The history of space exploration: Sputniks and First Rockets*

Day 2: Mon- Fri, 17-21 July 2023 Space Rocks: Planets, Galaxies, Black Holes and Space Travel

- *Our Solar family of rocky planets: Mercury, Venus, Mars*
- *Our closest neighbour, the Moon*
- *The Space missions to Moon: the Apollo missions*
- *The First EVA (spacewalk)*

Day 3: Mon- Fri, 17-21 July 2023 Space Rocks: Planets, Galaxies, Black Holes and Space Travel

- *Moons, Comets, Meteorites and other Rocks in the Space*
- *Rosetta Project*
- *Exoplanets and how we look for them*
- *How to become an Astronaut?*

Day 4: Mon- Fri, 17-21 July 2023 Space Rocks: Planets, Galaxies, Black Holes and Space Travel

- *The Science behind Rockets*
- *What is Aerodynamics?*
- *Let us explore our closest Star!*
- *Solar Orbiter*

Day 5: Mon- Fri, 17-21 July 2023 Space Rocks: Planets, Galaxies, Black Holes, and Space Travel

- *Let's learn about Space Crews!*
- *International Space Station*
- *Mars and its Moons*
- *Lets Explore: Venus and Mercury*
- *The future of the Space Exploration*
- *Is travelling in Time possible?*



Week 3: Amazing Biomimicry and the Science on Innovation

Day 1: Mon-Fri, 24-28 July 2023 *Amazing Biomimicry and the Science on Innovation*

- *What is Biomimicry?*
- *The World of Reptiles*
- *Charles Darwin and his Discoveries*
- *Adaptation and Evolution, do we still evolve?*
- *Biomes and Habitats: from Desert to Arctic*

Day 2: Mon-Fri, 24-28 July 2023 *Amazing Biomimicry and the Science on Innovation*

- *Magnificent Plants and Trees*
- *What is Chlorophyll and why is it important?*
- *From Fungus to Vaccines*
- *Intelligent Noses*

Day 3: Mon-Fri, 24-28 July 2023 *Amazing Biomimicry and the Science on Innovation*

- *Biomimicry and Medicine*
- *The Heart and Whales*
- *Octopuses: Intelligent Creatures of the Oceans*
- *Animal's Amazing Vision*

Day 4: Mon-Fri, 24-28 July 2023 *Amazing Biomimicry and the Science on Innovation*

- *Let us build Amazing Wings*
- *What can we learn from Penguins?*
- *Fast like a Shark!*
- *Spiders: Talented Engineers and Architects*

Day 5: Mon-Fri, 24-28 July 2023 *Amazing Biomimicry and the Science on Innovation*

- *Bioluminescence in Nature or why Animals Glow?*
- *The world of Insects*
- *Can we survive without Bees?*
- *Medicine from Amphibians*



Week 4: How Engineers Change the World

Day 1: Mon-Fri, 31 Jul -4 August 2023 How Engineers Change the World

- *Engineering and Problem Solving*
- *How Simple Machines Changed our Life*
- *Cogs and Wheels*
- *The Invention of Cars*

Day 2: Mon-Fri, 31 Jul -4 August 2023 How Engineers Change the World

- *Leonardo Da Vinci, Catapults, and Divers*
- *How do Submarine Work?*
- *How do we Build Dams and Why We Need Them?*
- *The Challenge of Building tall Towers*

Day 3: Mon-Fri, 31 Jul -4 August 2023 How Engineers Change the World

- *Investigate Bridges and Tunnels*
- *Kingdom Brunel and his big Engineering Dreams*
- *Property of Materials*
- *Friction and Resistance*

Day 4: Mon-Fri, 31 Jul -4 August 2023 How Engineers Change the World

- *Margaret Hamilton and the Apollo Mission*
- *The Science of reusable Rockets*
- *The Invention of the Telephone*
- *Stephenson and the first Railways*

Day 5: Mon-Fri, 31 Jul -4 August 2023 How Engineers Change the World

- *The Introduction in Artificial Intelligence*
- *Amazing new Materials*
- *Biomimicry Engineered by Nature*
- *Maths in Nature*



Week 5: The Wonderful World of Chemistry

Day 1: Mon-Fri, 7-11 August 2023 *The Wonderful World of Chemistry*

- *What is Chemistry? From the first Alchemists to modern Chemists*
- *What is the matter? Incredible atoms and the Periodic Table*
- *Hydrogen and Helium: The Universe's first Elements*
- *Chemical bonding: How the Elements interact*

Day 2: Mon-Fri, 7-11 August 2003 *the Wonderful World of Chemistry*

- *What is a Chemical?*
- *Explosive Chemical Reactions and amazing Physical changes*
- *What are the States of Matter? From the Coldest Condensates to the Hottest Plasmas*
- *The Properties of Matter – Amazing Materials of the Future!*
- *Non-Newtonian Liquids that break all the Rules!*

Day 3: Mon-Fri, 7-11 August 2023 *the Wonderful World of Chemistry*

- *Corrosive Acids and Caustic Alkalis*
- *The Magic of Water, and its Evil Twin, Hydrogen Peroxide*
- *The Element of Life: Adventures with Carbon*
- *Can you freeze a Gas? Experiments with Carbon Dioxide*
- *Radioactive! Marie Curie and the most Dangerous Elements*

Day 4: Mon-Fri, 7-11 August 2023 *The Wonderful World of Chemistry*

- *Heavy Metal: The Metallic Elements and their Properties*
- *The Superpowers of Iron and Copper*
- *Dazzling Polymers and how to make them!*
- *Plastic and Paper: Recycle, Reuse, and Reduce!*

Day 5: Mon-Fri, 7-11 August 2023 *The Wonderful World of Chemistry*

- *What is Density? Can you stack Liquids?*
- *The elements in your body!*
- *Dorothy Hodgkin and the beautiful World of Crystals.*
- *Experiments with Chromatography- the Chemistry of Colour*



Week 6: Introduction in Medical Science

Day 1: Mon-Fri, 14-18 August 2023 Introduction in Medical Science

- *The History of Medicine*
- *The Anatomy of our Vital Organs*
- *The Body's Systems*
- *Bio-machinery: Muscles, Tendons, and the Skeleton*
- *What is Blood?*

Day 2: Mon-Fri, 14-18 August 2023 Introduction in Medical Science

- *How Doctors see inside us: Medical Imaging*
- *Our incredible Nervous System*
- *Amazing Brains*
- *Vision and how our Eyes play tricks on us*

Day 3: Mon-Fri, 14-18 August 2023 Introduction in Medical Science

- *The Digestive System and our Miraculous Micro-biome*
- *An Apple a Day: What makes certain Foods healthy?*
- *What are Humans made from? The Chemistry of Life*
- *Let's learn about Teeth!*

Day 4: Mon-Fri, 14-18 August 2023 Introduction in Medical Science

- *The Circulatory System: Heart and Blood*
- *The army inside us: Our Immune System*
- *Curing Disease with the Power of Genetics.*
- *What are Pathogens?*
- *John Snow and Germ Theory*

Day 5: Mon-Fri, 14-18 August 2023 Introduction in Medical Science

- *How we are winning the fight against Germs: Alexander Fleming and Mary Hunt*
- *Biomimicry: How learning from animals can help us live longer*
- *Viruses and Vaccines: Edward Jenner*
- *How the deadliest Creature in the world might just save us all*
- *The Future of Medicine: Will we one day live forever? The robots doctors.*



Week 7: From Big Bang to the Modern World

Day 1: Mon-Fri, 21-25 August 2023 - From Big Bang to the Modern World

- *How it all started: Big Bang*
- *Lost in Space: Explore the Universe and Galaxies and Black Holes*
- *How Stars were born (make a Nebula).*
- *What are supernovae and who was Fritz Zwicky*
- *The Sun: Our own star!*

Day 2: Mon-Fri, 21-25 August 2023 - From Big Bang to the Modern World

- *Back on Earth: Size, Shape, Spin, and Age*
- *How Henry Cavendish, Isaac Newton, Edmond Halley, and Charles Lyell helped answer some important Questions*
- *Looking for fossils and Dinosaur Hunters*
- *Mary Anning's Excavations*

Day 3 : Mon-Fri, 21-25 August 2023 - From Big Bang to the Modern World

- *Rocks and how they change*
- *The Fire Below: Volcanoes*
- *Plate Tectonics and Richter Scale*
- *What is Air?*
- *Hot and Cold: what is the Atmosphere?*
- *Weather and the Life Cycle of a Raindrop*

Day 4: Mon-Fri, 21-25 August 2023 - From Big Bang to the Modern World

- *Microorganisms or how it all started on Earth*
- *Wonderful Cells. Make Cells, draw Cells, how Cells divide Exponentially!*
- *How Life came out of the Sea. Tree of Life, early Land Colonisers*
- *Homo Sapiens: Where did we come from?*
- *Carl Linnaeus, Charles Darwin, Gregor Mendel, and Rosalind Franklin*

Day 5: Mon-Fri, 21-25 August 2023 - From Big Bang to the Modern World

- *The Anthropocene: Ecosystems, Green Energy and Climate Change*
- *Arctic and Antarctic challenge*
- *Reaching the stars: Rockets and Space Missions.*
- *Can we fly faster? Forces, Speed of Sounds, Speed of Light*
- *Rosetta Mission and the Voyager Space Craft*
- *How to become an Astronaut*
- *The Colonisation of Mars*