



## SUMMER CAMPS 2024

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, 8-12 July 2024 -The History of Science of Ancient Civilisations**
2. **Mon- Fri, 15-19 July 2024 -Think Physics: Newton, Volta, Einstein and Quantum Physics**
3. **Mon - Fri 22-26 July 2024 - Structures of Innovations: Exploring the Engineer's Universe**
4. **Mon Fri 29 July -2 Aug 2024 -DNA and the Marvel of Life: Exploring Biology**
5. **Mon-Fri, 5-9 August 2024 -Astronomy Unveiled: Discovering Space's Secrets**
6. **Mon-Fri,12-16 August 2024 - Discovering Earth: Journey in to Geography and Geology**
7. **Mon Fri: 19-23 August 2024- Junior Medical Explorers: Discovering the World of Medicine**



## **WEEK 1: The History of Science of Ancient Civilisations**

### **Day 1 Mon-Fri, 8-12 July 2024 The History of Science of Ancient Civilisations**

#### **The Inventions of Ancient China**

- Paper Making, Maps and the Invention of the Compass
- The Kite and Forces of Flight
- Earthquakes and the Seismograph
- From Gunpower to Rockets

### **Day 2 Mon-Fri, 8-12 July 2024 The History of Science of Ancient Civilisations**

#### **The Discoveries of Ancient Greece**

- Famous Greeks - Archimedes and the golden crown
- How Democritus discover his Atomic Theory
- Greek medicine - Galen the Gladiator's Doctor
- Early Greek Astronomers and what they learned from Babylonians

### **Day 3 Mon-Fri, 8-12 July 2024 The History of Science of Ancient Civilisations**

#### **Secrets of Ancient Egypt**

- Mystery of Rosetta Stone
- Introduction to Egyptology and Archaeology
- The Mystery of Pyramids
- Papyrus, Ink, Toothpaste and other Amazing Discoveries
- The Secrets of Mummification

### **Day 4 Mon-Fri, 8-12 July 2024 The History of Science of Ancient Civilisations**

#### **Aztecs, Mayans and Incas**

- Ancient Cities, Farms, and Bridges
- Sports and the Discovery of Rubber
- Obsidian and Powerful Volcanoes
- The Story of Chocolate

### **Day 5 Mon-Fri, 8-12 July 2024 The History of Science of Ancient Civilisations**

#### **Discoveries of Ancient Rome**

- Roman Concrete and Roman Roads
- How Roman Built Aqueducts
- Arches, Domes, Vaults and other Roman Architectural Innovations
- Water Mills and Roman Baths (Hydrodynamics and Thermodynamics)



## **WEEK 2 Think Physics: *Newton, Volta, Einstein and Quantum Physics***

### **Day 1 Mon- Fri, 15-19 July 2024 Think Physics: *Newton, Volta, Einstein and Quantum Physics***

- What is Gravity and its Effect in Our Universe?
- I Galileo Galilei
- Leonardo and the Science of Flight
- Rocket Science and How Far Can We Get?

### **Day 2 Mon- Fri, 15-19 July 2024 Think Physics: *Newton, Volta, Einstein and Quantum Physics***

- From Solid to Plasma: States of Matter
- What are Forces?
- Isaac Newton and the Newtonian Laws
- What is Energy?
- Density and the Property of Materials

### **Day 3 Mon- Fri, 15-19 July 2024 Think Physics: *Newton, Volta, Einstein and Quantum Physics***

- Electromagnetisms and Light
- Electricity and Circuits
- Alexander Volta and the Invention of the Battery
- Green Energy and New Materials

### **Day 4 Mon- Fri, 15-19 July 2024 Think Physics: *Newton, Volta, Einstein and Quantum Physics***

- Dance of Particles: Introduction in Particle Physics
- Strange Atoms
- Weak and Strong Forces
- A Journey Through the Life of Stars
- Stephen Hawking and the mystery of Black Holes
- Is Time Travel Possible?

### **Day 5 Mon- Fri, 15-19 July 2024 Think Physics: *Newton, Volta, Einstein and Quantum Physics***

- The Physics of Sound
- What are Waves: A Journey Through the World of Vibrations
- What is Echolocation?
- The Invention of the Telephone and How this Changed Us

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## WEEK 3 Structures of Innovations: Exploring the Engineer's Universe

### Day 1 Mon - Fri 22-26 July 2024 - Structures of Innovations: Exploring the Engineer's Universe

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

### Day 2 Mon - Fri 22-26 July 2024 - Structures of Innovations: Exploring the Engineer's Universe

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

### Day 3 Mon - Fri 22-26 July 2024 - Structures of Innovations: Exploring the Engineer's Universe

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

### Day 4 Mon - Fri 22-26 July 2024 - Structures of Innovations: Exploring the Engineer's Universe

- Margaret Hamilton and the Apollo Mission
- Space Engineers: The Science of reusable Rockets
- How to Land on a Comet: The Amazing Rosetta Project
- The Invention of the Telephone

### Day 5 Mon - Fri 22-26 July 2024 - Structures of Innovations: Exploring the Engineer's Universe

- Maths in Nature: Fractals, Symmetry, Fibonacci and more
- Amazing New Materials
- Biomimicry! Engineered by Nature
- The Introduction in Artificial Intelligence

## Week 4 Exploring Biology: DNA and the Marvel of Life

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### **Day 1 Mon Fri 29 July -2 Aug 2024, Exploring Biology: DNA and the Marvel of Life**

- From Bacteria to Humans
- The Life of the Cell: the Perfect Mini Factory
- The Secret of Mitochondria
- Lynn Margulis and symbiosis
- Tiny Titan: The Amoeba's World

### **Day 2 Mon Fri 29 July -2 Aug 2024, Exploring Biology: DNA and the Marvel of Life**

- 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 29 July -2 Aug 2024, Exploring Biology: DNA and the Marvel of Life**

- Guardians of the Genetic Code: The DNA
- The Digestive Journey of a Sandwich
- Respiratory System in Humans and Animals
- Five Senses in Human and Animals

### **Day 4 Mon Fri 29 July -2 Aug 2024, Exploring Biology: DNA and the Marvel of Life**

- Biology Thermometer: Cold Blooded vs Warm Blooded
- Mightily Calcium: Skeletons, Teeth and beyond
- Why our Brain is so Special?
- Hearing and Vision in the Animal World

### **Day 5 Mon Fri 29 July -2 Aug 2024, Exploring Biology: DNA and the Marvel of Life**

- Solution for Survival: How Animals Adapt to Extreme Conditions
- Platypuses: the Most Mysterious Animals
- Jane Goodall: The Woman who Walked with the Apes
- The Story of Evolution and Where It Takes Us
- Can we become an Interplanetary species?

## **WEEK 5 Astronomy Unveiled: Discovering Space's Secrets**

### **Day 1 Mon-Fri, 5-9 August 2024 Astronomy Unveiled: Discovering Space's Secrets**

- From Nothing to Everything: The Big Bang Enigma
- The James Webb Telescope Saga



- Gravity Unveiled: The Force that Shapes the Universe
- The Lifecycle of Stars: From Nebula to Supernova
- Stephen Hawking or story of the Black Hole

### **Day 2 Mon-Fri, 5-9 August 2024 Astronomy Unveiled: Discovering Space's Secrets**

- Exploring the Moon's Many Faces
- The Space Missions to Moon: Apollo, Chandrayaan, Chang and Artemis Lunar Missions
- Our Solar Family of Rocky Planets: Mercury, Venus, Mars
- The First Spacewalk (EVA): Leonov's Pioneering Leap

### **Day 3 Mon-Fri, 5-9 August 2024 Astronomy Unveiled: Discovering Space's Secrets**

- Comets, Meteorites and Moons and other Rocks in the Space
- How to Land on a Comment: The Amazing Rosetta Project
- Kepler -452b: Exoplanets and How we Look for Them
- Stellar Heroes and Sheroes: How to Become an Astronaut?

### **Day 4 Mon-Fri, 5-9 August 2024 Astronomy Unveiled: Discovering Space's Secrets #**

- The Power of Lift: Exploring the Science Behind Rockets
- Mastering Aerodynamics: the Secrets of Flight
- Our Brilliant Sun: From Fire to Fusion
- From Galileo to the Solar Orbiter Mission: Solar Winds, Sunspots and Beyond

### **Day 5 Mon-Fri, 5-9 August 2024 Astronomy Unveiled: Discovering Space's Secrets**

- Living in Orbit: the International Space Station Story
- Terraforming Mars
- Lets Explore Venus and Mercury
- Is travelling in Time possible?

## **Week 6 Discovering Earth: Journey in to Geography and Geology**

### **Day 1 Mon-Fri, 12-16 August 2024 Discovering Earth: Journey in to Geography and Geology**

- Mapping the World: a Journey with Globes and Maps

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- First Navigators: Polynesian Wayfinders, Vikings, Ancient Greeks and more
- How the Invention of the Compass Changed the World
- Continents and Oceans
- Jacques Cousteau and the Exploration of Undersea World

### **Day 2 Mon-Fri, 12-16 August 2024 Discovering Earth: Journey in to Geography and Geology**

- Weather and Seasons
- The Power of the Wind
- What is Temperature?
- The Story of Water Cycle
- Clouds and Fog and the Mysteries of the Sky

### **Day 3 Mon-Fri, 12-16 August 2024 Discovering Earth: Journey in to Geography and Geology**

- Evolution of the Landscape
- The Story of Alfred Wegener and Pangea
- Geological Strata
- How Marie Tharp changed Geology Forever
- The Science Earthquakes and Volcanos

### **Day 4 Mon-Fri, 12-16 August 2024 Discovering Earth: Journey in to Geography and Geology**

- The Geography of the African Continent
- The Sahara: Earth's Largest Desert an Its Secrets
- Amazing Amazonian Rainforests!
- From Mount Everest to the Mariana Trench
- Alexander von Humboldt: From Berlin to Bogota

### **Day 5 Mon-Fri, 12-16 August 2024 Discovering Earth: Journey in to Geography and Geology**

- What is Biogeography or How Wolves can Impact Geography
- Endurance: Shackleton's Antarctic Odyssey
- Ranulph Fiennes Great Adventurers and Explores
- Tales of Survival and Modern Explorers

## **Week 7 Junior Medical Explorers: Discovering the World of Medicine**

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### **Day 1 Mon Fri: 19-23 August 2024 Junior Medical Explorers: Discovering the World of Medicine**

- Doctors Through Time: The History of Medicine
- Inside the Human Body
- Bio-machinery: Muscles, Tendons, and the Skeleton
- Red and White: The Heroes of our Blood

### **Day 2 Mon Fri: 19-23 August 2024 Junior Medical Explorers: Discovering the World of Medicine**

- How Doctors see Inside Us: Medical Imaging
- Our Incredible Nervous System
- Wonders of the Brain
- Vision and How our Eyes Play Tricks on Us

### **Day 3 Mon Fri: 19-23 August 2024 Junior Medical Explorers: Discovering the World of Medicine**

- The Digestive System and our Miraculous Micro-biome
- Elements: Investigating What We Are Made Of?
- Let's learn about Teeth!
- The Circulatory System: Heart and Blood

### **Day 4 Mon Fri: 19-23 August 2024 Junior Medical Explorers: Discovering the World of Medicine**

- John Snow and Germ Theory that Saved Millions Lives
- The Army Inside Us: Our Immune System
- The Power of Genetics: The Discoveries of Crick, Watson and Franklin
- What are Pathogens?

### **Day 5 Mon Fri: 19-23 August 2024 Junior Medical Explorers: Discovering the World of Medicine**

- How we are winning the fight against Germs: Alexander Fleming and Mary Hunt
- Medicine from Nature: The Immortal Jellyfish or How Do We Learn from Animals
- 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





