



Scientific Mysteries of Energy - Christmas Journey into Physics

19-23 December 2022 Christmas Science Camp

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 having regular PCR flow tests and are fully vaccinated
- We have a very high teacher/child ratio during all camp days (6:1)
- 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**!**

Day 1 - Monday, 19 December 2022

- What is Energy?
- A History of Energy/ Using Energy at Home
- What is the Law of Conservation of Energy?
- What are Atoms? Universe of Energy: the energy from stars and galaxies
- What is Dark Energy
- The Energy of Our Closest Star: the Sun

Day 2 - Tuesday, 20 December 2022

- What is Photosynthesis or How Plants Create Energy?
- Food as Energy
- What is Heat and Temperature?
- What is Chemical Energy?

Day 3 - Wednesday, 21 December 2022

- Light as a source of Energy
- How Newton Discovered the Secrets of Universe
- The Energy of Bioluminescence
- Storing Energy: from Volta to the Invention of Fuel Cells
- Can we Break the Speed of light?



Day 4 - Thursday, 22 December 2022

- The Nature of Sound and Vibrations
- How Do we Detect Sounds?
- Seeing with Sound: Echolocation
- What is Gravity? (Little Science)
- Gravitational Potential Energy (Advance Science)

Day 5 - Friday, 23 December 2023

- What is Electricity? The Science behind Christmas Lights
- How Benjamin Franklin Collected Electric Charges from Thunderclouds
- Nikola Tesla and his Fantastic Inventions
- Green Energy: Wind Energy and Hydro Electricity