

Aattral's Seyal- summer science retreat (May 1st to 20th,2024)

Welcome to the Seyal Summer Science Retreat, where exploration meets education in an immersive and enriching environment. At Seyal, we believe in the transformative power of practical learning, recognizing its indispensable role in shaping the future of science and society.

In today's rapidly evolving world, theoretical knowledge alone is not enough. Practical application of concepts is essential for fostering innovation, problem-solving, and meaningful contributions to the scientific community. That's why our retreat focuses on hands-on experiences, interactive demonstrations, and active participation to ensure a deeper understanding of core scientific concepts.

Through engaging activities and immersive workshops, participants not only gain theoretical knowledge but also learn how to apply it in real-world scenarios. We emphasize the importance of practical learning as a cornerstone of scientific progress, empowering participants to become critical thinkers, innovators, and leaders in their respective fields.

| Details | Description |
|--------------------------------------|--|
| Age Limit | <i>Effective for 12 and above</i> |
| Fee (for one subject retreat) | <i>Rs 7,200 only (inclusive of food and accommodation)</i> |
| Fee (for all subjects) | <i>Rs 26,000 only (inclusive of food and accommodation)</i> |
| Accommodation | <i>Separate shared space provided for men and women</i> |
| Dining | <i>Farm-cooked fresh organic food shall be served</i> |
| Refreshments | <i>Refreshments provided throughout the retreat</i> |
| Contact | <i>9597379545, 9500286019</i> |
| Eligibility | <i>Open to students, self-learners, parents, and adults who have a keen interest in expanding their knowledge and learning new concepts.</i> |
| Apply at | <i>www.aattral.org/seyal2024</i> |

Discover all the exciting details about the retreat within the following pages. Dive deep to uncover the full scope of our enriching experience. If you're intrigued, don't hesitate to reach out to us via the provided contact information. Additionally, participants have the flexibility to select a single subject retreat for their participation.

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Mathematics (01-05-2024 to 05-05-2024)

| Time | Day 1 | Day 2 | Day 3 | Day 4 | Day 5 |
|----------|---------------------------------------|---------------------------------|--------------------------|--|----------------------------------|
| 7:00 AM | Morning Yoga & Warm-up Games | River Bath & Meditation | Nature Walk & Meditation | Yoga & Warm-up Games | River Bath & Meditation |
| 8:00 AM | Breakfast | Breakfast | Breakfast | Breakfast | Breakfast |
| 8:30 AM | Introduction to Mathematics in Nature | Practical Geometry | Data Handling in Nature | Astronomy Session | Geocaching Adventure |
| 10:30 AM | Refreshment Break | Refreshment Break | Refreshment Break | Refreshment Break | Refreshment Break |
| 10:45 AM | Hands-on Experiment | Experiment | Probability Games | Trigonometry Treasure Hunt | Group Presentations |
| 12:30 PM | Lunch & Relaxation | Lunch & Relaxation | Lunch & Relaxation | Lunch & Relaxation | Lunch & Relaxation |
| 3:00 PM | Team Building Games | Social life Math | Experiment | Team Building Games | Departure and end of the retreat |
| 5:30 PM | Refreshment Break | Refreshment Break | Refreshment Break | Refreshment Break | |
| 5:45 PM | Why so Math? | The life of X | Graphing the world | Easy is complex | |
| 7:30 PM | Campfire & Folk Music | Campfire Stories and Stargazing | Movie Time | Campfire Tales of Mathematical Discoveries | |
| 8:30 PM | Dinner | Dinner | Dinner | Dinner | |

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Physics (06-05-2024 to 10-05-2024)

| Time | Day 1 | Day 2 | Day 3 | Day 4 | Day 5 |
|----------|---|---|---|---|---|
| 7:00 AM | Yoga, Nature Walk, Spirit Games, River Bath | Yoga, Nature Walk, Spirit Games, River Bath | Yoga, Nature Walk, Spirit Games, River Bath | Yoga, Nature Walk, Spirit Games, River Bath | Yoga, Nature Walk, Spirit Games, River Bath |
| 8:00 AM | Breakfast | Breakfast | Breakfast | Breakfast | Breakfast |
| 9:00 AM | Trekking | Workshop: Light, Shadows, Reflections | Workshop: Force and Pressure | Workshop: Light - Reflection and Refraction | Recap session |
| 11:00 AM | Workshop: Motion and Measurement of Distances | Team-building games | Identifying daily physics | Physics Pioneers | Team-building games |
| 1:00 PM | Lunch | Lunch | Lunch | Lunch | Lunch |
| 3:00 PM | Team-building games | Workshop: Fun with Magnets | Workshop: Sound | Workshop: Electricity | Departure and end of the retreat |
| 5:00 PM | Experiment session: Electricity and Circuits | Movie time | Escape Room Challenge | Trekking | |
| 7:00 PM | River walk | Flow art session | Campfire with interactive science trivia | Flow art session | |
| 8:00 PM | Campfire with folk music and storytelling | Dinner | Campfire with folk music and storytelling | Campfire with group discussions on renewable energy sources | |
| 9:00 PM | Dinner | Evening discussion | Dinner | Dinner | |

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Chemistry (11-05-2024 to 15-05-2024)

| Time | Day 1 | Day 2 | Day 3 | Day 4 | Day 5 |
|----------|--|--|--|---|--|
| 7:00 AM | Yoga and warm-up activities | Meditation and mindfulness session | River bath and morning nature walk | Morning yoga session | Morning nature walk and reflection |
| 8:00 AM | Breakfast and team-building icebreaker games | Breakfast | Breakfast | Breakfast | Breakfast |
| 9:00 AM | Introduction to chemistry concepts session | Hands-on experiments exploring elements, compounds, and mixtures | Interactive session on acids, bases, and salts | Introduction to carbon chemistry with hands-on activities | Recap of all chemistry concepts covered with group discussions |
| 11:00 AM | Trekking and nature walk with discussions | Team-building games (Trust Walk, Team Building Tower, Minefield) | Hands-on experiments with acids, bases, and salts | Trekking and nature exploration focusing on carbon-containing compounds | Closing ceremony with group presentations |
| 1:00 PM | Lunch and relaxation | Lunch and relaxation | Lunch and relaxation | Lunch and relaxation | Lunch and farewell |
| 3:00 PM | Interactive experiments and demonstrations | Group activity: "Escape Room Challenge" | Outdoor team-building games (Human Knot, Spider Web) | Outdoor adventure activities (Zip lining, rock climbing) | Departure and end of the retreat |
| 5:00 PM | River walk with hands-on activities | Flow art workshop incorporating chemical reactions | Egg Drop challenge incorporating chemical principles | Environmental conservation activity | |
| 8:00 PM | Dinner | Dinner | Dinner | Dinner | |
| 9:00 PM | Campfire and folk music session | Movie time featuring science-themed films | Campfire storytelling and stargazing | Campfire and interactive science quiz | |

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Bioscience (Biology) (16-05-2024 to 20-05-2024)

| Time | Day 1 | Day 2 | Day 3 | Day 4 | Day 5 |
|---------------------|--|--|--|---|---|
| 7:00 am - 8:00 am | Yoga/Warm-up Games/River Bath/Nature Walk/Meditation | River Walk and Meditation | Nature Walk and Bird Watching | Morning Yoga and Meditation | River Bath and Morning Walk |
| 8:00 am - 8:30 am | Breakfast | Breakfast | Breakfast | Breakfast | Breakfast |
| 8:30 am - 10:30 am | Introduction to Bioscience - Diversity of Living Organisms (Interactive Session) | Interactive Session: Nutrition in Plants and Animals | Workshop: Cell Structure and Functions | Workshop: Reproduction in Plants and Animals - Presentation | Session on Environmental Conservation - Role of Individuals |
| 10:30 am - 10:45 am | Refreshments | Refreshments | Refreshments | Refreshments | Refreshments |
| 10:45 am - 12:30 pm | Hands-on Activity: Microscope Workshop - Exploring Microorganisms | Food Science Experiment: Plant and Animal Nutrition | Hands-on Activity: Fabrication of Paper Plane Contest | Experiment: Plant Propagation Techniques | Group Project: Designing Eco-friendly Solutions |
| 12:30 pm - 3:00 pm | Lunch and Leisure Time | Lunch and Leisure Time | Lunch and Leisure Time | Lunch and Leisure Time | Lunch and Leisure Time |
| 3:00 pm - 5:00 pm | Trekking Expedition - Observing Biodiversity in Natural Habitat | Flow Art Workshop - Expressing Natural Phenomena through Art | Gym and Yoga to human health | Adventure Sports | Departure and end of the retreat |
| 5:00 pm - 5:15 pm | Refreshments | Refreshments | Refreshments | Refreshments | |
| 5:15 pm - 7:00 pm | Team Building Games (e.g., Build-a-Bridge, Lifeboat) | Outdoor Movie Time: Documentary on Wildlife Conservation | Team Building Games (e.g., Balloon Pop, Obstacle Course Relay) | Team Building Games (e.g., Pipeline, Silent Puzzle) | |
| 7:00 pm - 8:00 pm | Dinner | Dinner | Dinner | Dinner | |
| 8:00 pm onwards | Campfire and Folk Music Night | Stargazing Session | Bonfire and Storytelling Session | Talent Show Night | |

- The schedule provided is a model but may change due to factors like weather, preferences, or unforeseen circumstances, ensuring flexibility for the best participant experience.

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Concepts coverage

| Subject | Core Concepts |
|-------------|---|
| Mathematics | Arithmetic Operations, Fractions, Decimals, Geometry, Algebra, Equations, Coordinate Geometry, Statistics, Probability |
| Physics | Motion, Light, Electricity, Magnetism, Force, Energy, Sound, Gravitation, Reflection, Refraction, Electric Current |
| Chemistry | Matter, Atoms, Molecules, Chemical Reactions, Acids and Bases, Metals and Non-Metals, Carbon Compounds, Periodic Classification of Elements |
| Bioscience | Cell Structure and Functions, Microorganisms, Nutrition, Reproduction, Biodiversity, Environment, Tissues, Heredity, Life Processes |

Important Note:

- Core concepts listed in the table provide a foundational understanding.
- Each core concept is accompanied by numerous associated branch concepts and sub-concepts.
- Our sessions will cover these associated concepts in-depth.
- We will explain, demonstrate, and actively involve participants in exploring these concepts.
- Core concepts serve as a starting point, offering a glimpse into the breadth of topics covered.
- Each Subject shall be handled by relevant expert.
- Participants will gain a comprehensive understanding of mathematics, physics, chemistry, and bioscience.
- Our aim is to provide a rich learning experience by delving into the intricacies of each subject.

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Seyal Summer Science Retreat: Exploring the Universe Through Science and Mathematics

Embark on an unforgettable journey of discovery at the Seyal Summer Science Retreat, where participants delve into the fascinating worlds of physics, chemistry, bioscience, and mathematics. Through immersive experiences and hands-on learning, unlock the secrets of the universe and ignite your passion for scientific exploration.

Key Takeaways:

- 1. Comprehensive Understanding:** Dive deep into the realms of physics, chemistry, bioscience, and mathematics, gaining a comprehensive understanding of fundamental concepts that shape our world.
- 2. Hands-on Exploration:** Engage in captivating experiments, demonstrations, and activities that bring scientific principles to life, allowing for a richer understanding and appreciation of the natural world.
- 3. Problem-solving Proficiency:** Sharpen your problem-solving skills and analytical thinking through challenging activities and simulations, empowering you to tackle complex problems with confidence.
- 4. Real-world Applications:** Discover the practical applications of science and mathematics in everyday life, from technological innovations to environmental sustainability and healthcare advancements.
- 5. Collaborative Learning:** Collaborate with fellow participants in team-building exercises, group projects, and interactive discussions, fostering communication skills, teamwork, and cooperation.
- 6. Inquiry-based Investigation:** Cultivate curiosity and critical thinking through inquiry-based investigations, encouraging you to question, explore, and uncover solutions to scientific mysteries.

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- 7. Environmental Awareness:** Develop a sense of environmental stewardship and ethical responsibility through discussions on sustainability, biodiversity conservation, and the ethical conduct of scientific research.
- 8. Career Exploration:** Explore a myriad of career paths in science, technology, engineering, and mathematics (STEM), gaining insights into potential opportunities and igniting aspirations for future endeavors.
- 9. Personal Growth:** Experience profound personal growth and self-discovery as you overcome challenges, expand your knowledge, and nurture a lifelong passion for learning and scientific inquiry.
- 10. Memorable Experiences:** Create lasting memories and forge lifelong friendships with like-minded peers, as you immerse yourself in a supportive and enriching learning environment unique to Seyal Summer Science Retreat.

Join us at Seyal Summer Science Retreat, where curiosity knows no bounds, and the pursuit of knowledge leads to endless possibilities. Together, let's embark on a journey of exploration, discovery, and inspiration.