



**UNDER THE AEGIS OF
BOARD OF DIRECTORS, INDIAN SCHOOLS OMAN
ORGANIZED BY**

INDIAN SCHOOL AL SEEB

STAI 2024

**CELEBRATING 21ST CENTURY
SKILLS IN SCIENCE**

HANDBOOK



5TH & 6TH OCTOBER 2024

FOREWORD

CELEBRATING 21ST CENTURY SKILLS IN SCIENCE

In today's rapidly evolving world, the ability to explore, innovate, and lead is more crucial than ever. The 4Cs (communication, collaboration, critical thinking and creativity) of 21st-century skills are the driving forces behind advancements in science and technology, shaping our future and solving the challenges of tomorrow. Indian School Al Seeb is proud to host STAI-2024-25, designed to celebrate and cultivate these essential skills in young minds. This event provides a platform for students to showcase their scientific prowess while incorporating 4Cs.

OBJECTIVES:

COMMUNICATION:

- Engage in captivating presentations
- Showcase scientific storytelling and visual displays

COLLABORATION:

- Participate in team-based challenges and projects
- Develop problem-solving skills through peer-to-peer learning

CRITICAL THINKING:

- Explore interactive exhibits and hands-on experiments
- Analyze real-world scenarios and develop innovative solutions

CREATIVITY:

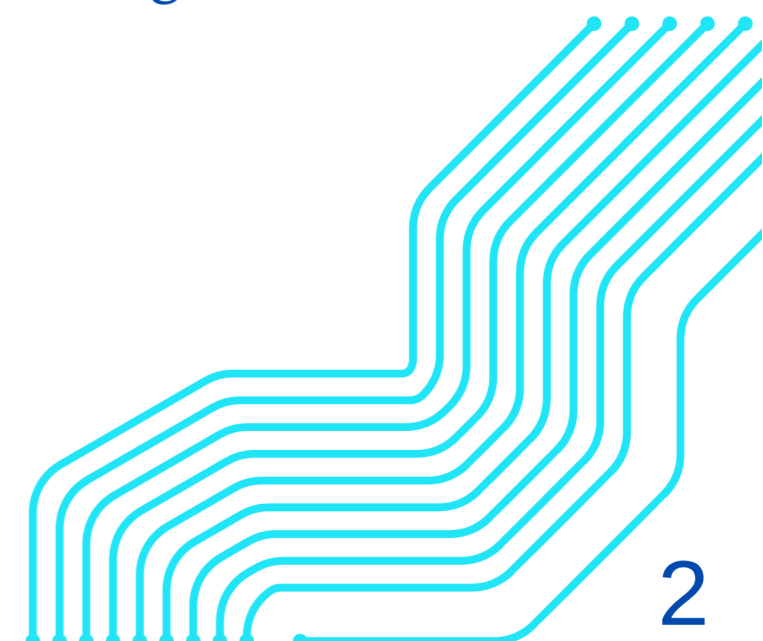
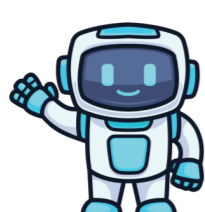
- Unleash imagination through science-inspired art and design
- Encourage out-of-the-box thinking

By participating, students can delve into scientific exploration, push the boundaries of their knowledge, and discover new frontiers. 4Cs will be at the heart of every event, encouraging students to think creatively, develop original ideas, and utilize cutting-edge technology and methodologies.

Leadership, an integral part of this journey, will be fostered as students take initiative, collaborate with peers, and present their findings confidently and clearly. This event aims to recognize and reward exceptional talent and inspire all participants to become leaders in the scientific community.

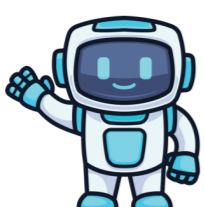
Join us at Indian School Al Seeb in celebrating these remarkable skills that define the scientists, engineers, and innovators of the future. Let this competition be a stepping stone towards a brighter, more inventive and scientifically advanced world.

Team Indian School Al Seeb



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EVENT DESCRIPTION

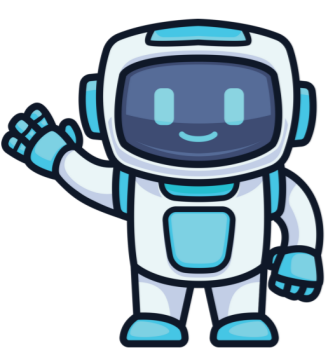
The events, included in STAI -2024-25, encompassing the fields of Science, Technology, and Innovation, will allow students of the various Indian Schools in Oman to showcase their scientific curiosity and innovative ideas. To encourage scientific temperament and cater to diverse age groups, the events are categorized into four:

CATEGORY	CLASS	NAME OF THE CATEGORY
1	I & II	SUB-JUNIOR-1
2	III to V	SUB-JUNIOR-2
3	VI to VIII	JUNIOR
4	IX to XII	SENIOR
5	VI to XII	OPEN

Sub-junior 1 & 2 competitions will be conducted in their respective schools as per the instructions from the host school.

No. of Teams/ participants:

Schools with the student strength of above 3000 are eligible to send up to two teams to participate/two individuals in each of the events and the other schools can send one team each/one participant. Each student can participate in only one event.



PRIZES & CERTIFICATES – RULES

Each criterion is given 10 points. The scores are collated and final scores are graded as A+, A, B+ & B.

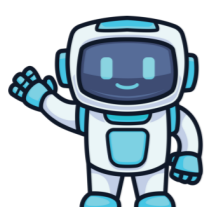
Certificates of merit will be awarded to

- First 1/4th above the mean points : A+
- Second 1/4 th above the mean points : A
- Third 1/4 th above the mean points : B+
- Fourth 1/4th above the mean points : B

Scores below the mean points (mentioned above) would be eligible only for a participation certificate.

The grades represent the performance of the participants as defined below:

GRADE	PERFORMANCE
A+	Outstanding
A	Excellent
B+	Very Good
B	Good



REGISTRATION GUIDELINES

Registration Link will be shared to the school coordinator shortly. Registration will be accepted only in the prescribed format

Last Date for Registration: The completed entry form should be sent to
stai2024@indianschoolseeb.com
by 15th September 2024

All changes in the names of the participants, if any should be communicated to the host school **on or before 22nd September 2024.**

Identification of Participants: Participants should carry their school ID card with their photograph.

Reporting of the Teams:

Teachers in charge of the participating schools should report to the school with the participating students at **7 am on 5th October 2024** to complete the registration procedures.

GENERAL GUIDELINES

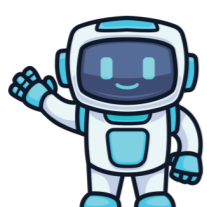
- The host school will provide the competition details, general instructions, rules, and regulations.
- Participants must not reveal their identity or the identity of their school.
- The medium of presentation will be English.
- Content related to ethnicity, religion, and race is strictly prohibited.
- All content, costumes, and dialogues must respect the culture and traditions of the Sultanate of Oman.
- The judges' decisions will be final.

DRESS CODE-

Participants are required to dress formally. The wearing of school uniforms is prohibited.

Inauguration & Valedictory Functions:

INAUGURAL FUNCTION & VALEDICTORY FUNCTION will be held on **Saturday, 5th October 2024 at 9:00 a.m.** and **Sunday, 6th October 2024 at 4 pm** respectively in the school's multipurpose hall.



DETAILED EVENT RULES

1. SHOW & TELL- (SUB-JUNIOR 1)

THEME:

Participants are encouraged to focus on science-related topics.

- Ø **Scientific Concepts:** Demonstrate basic principles like gravity, magnetism, or photosynthesis.
- Ø **Inventions and Innovations:** Showcase important inventions or modern technological innovations.
- Ø **Famous Scientists:** Present on the life and contributions of renowned scientists.
- Ø **Natural Phenomena:** Explain natural events like earthquakes, volcanic eruptions, or the water cycle.

GUIDELINES:

- Ø Each participant will have a maximum of 2 minutes for their presentation, consisting of a 1-minute speech and a 1-minute question-and-answer session.
- Ø The language of the presentation must be English.

EVALUATION CRITERIA:

- Ø Relevance to the Theme or Prompt
- Ø Presentation skills (Clarity/ Confidence/Communication)
- Ø Use of Visual Aids
- Ø Creativity and engagement (passion and enthusiasm)
- Ø Audience Interaction (Q & A Handling)

2. SPELL BEE (SUB-JUNIOR 2)

GUIDELINES:

- Ø The British English Spelling System should be adhered to.
- Ø The participant must signal the end of their spelling (e.g., saying “done”).
- Ø Request for Clarification: Participants can ask for the word to be repeated, defined, or used in a sentence. No additional information can be requested beyond the allowed clarifications.
- Ø This event consists of 3 rounds.
- Ø In case of tie, tiebreaker round will be conducted.

ROUND I -Written Round:

To test participants' ability to spell without verbal prompts

- Ø Format: Participants write the spelling of words on paper.
- Ø Word List: A mix of easy to moderately difficult science terms.
- Ø Time Limit: A set time (e.g., 15 minutes) to complete a list of 20-30 words.
- Ø Scoring: Words are scored for accuracy. Top 15 students will qualify for the second round.

Round II – Visual Round:

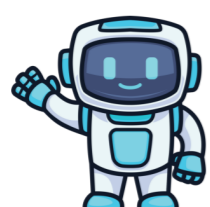
To link visual recognition with spelling and deepen understanding of scientific concepts.

- Ø Format: Participants are shown pictures or diagrams and must spell the associated scientific term.
- Ø Time Limit: 30 seconds per image.
- Ø Scoring: Points for correct spelling based on the visual cue.
- Ø A maximum of 7 students will qualify for the third round.

Round III – Rapid Fire

To evaluate quick thinking and spelling accuracy under time pressure.

- Ø Format: Rapid-fire spelling where participants must spell as many words as possible within a time limit.
- Ø Word List: Shorter, simpler science terms to match the fast pace.
- Ø Time Limit: 1 minute per participant.
- Ø Scoring: Number of correct words spelled within the time frame.
- Ø Judges' decision will be final.



DETAILED EVENT RULES

3. RHYTHMIC RHAPSODY REVUE-(OPEN CATEGORY)

Theme: Celebrating 21st Century Skills in Science

GENERAL GUIDELINES

- Ø Students from Classes VI to XII (open category) are eligible to participate in this event.
- Ø Each team may consist of 6-8 members. The team must include a mix of students from both junior and senior categories.
- Ø Participants are required to present a skit that incorporates dialogue, dance, and music.
- Ø The skit must adhere to the designated topic.
- Ø Music should be performed live; pre-recorded music is not permitted. Students must sing on stage. However, the use of musical instruments is optional.
- Ø The duration of the skit should not exceed 10 minutes. Exceeding the time limit will result in a negative marking.
- Ø Participants are not allowed to read or refer to a script during the performance.
- Ø Safety must be ensured, especially when using scientific equipment or materials.

EVALUATION CRITERIA:

- Ø Scientific Accuracy & Relevance to Theme: Correctness of scientific facts and concepts & How well the skit adheres to the given theme
- Ø Creativity and Originality: Innovation in presentation and script.
- Ø Performance: Acting skills, clarity of dialogue, and overall engagement.
- Ø Teamwork: Coordination and cooperation among team members.
- Ø Overall Impact

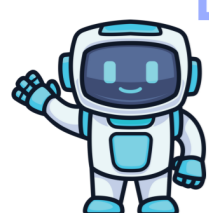
4.SCIENCE WIZARD – (SENIOR CATEGORY)

The participants will be tested on the mastery of scientific knowledge, critical thinking, problem solving, data analysis etc to win the title the Science Wizard.

- Ø The Preliminary round of the competition will be conducted online. This round is open to all senior section students, with no limit on participants. The top performers will then be selected for the finals, with a maximum of 2 students from schools with over 3000 students and 1 student from school with under 3000 students.
- Ø Finals will be conducted in the host school through various rounds.

5.STEAM SUMMIT –EXHIBITION (JUNIOR AND SENIOR)

TOPIC	CATEGORY	CLASSES
Create a functional or innovative product applying any scientific concept using only waste materials	JUNIOR	VI-VIII
Optimizing learning environments through scientific solutions- case study based on real school campus situations The objective of this competition is to explore scientific concepts to address a real school campus problem, envision solutions for the same.	SENIOR	IX-XII



DETAILED EVENT RULES

GENERAL GUIDELINES

- Ø **Exhibit Requirements:** The exhibit must be a working model relevant to the given topic.
- Ø **Participant Restrictions:** Each exhibit may include up to three students, who must be from different grades.
- Ø **Materials:** Each school is responsible for providing all materials needed for the exhibition, including display charts/foam boards, white cloth for tables, extension cords, double-sided tape, etc.
- Ø **Safety:** The use of hazardous substances in the exhibit is strictly prohibited.
- Ø **Facilities Provided:** The host school will provide power sockets and tables for the exhibits.
- Ø **Display Area:** The allocated space for each exhibit is 3m x 2m.
- Ø **Dismantling:** Exhibits must be set in the allotted room by **11 am on Saturday, 5th October 2024**. Kindly note that the exhibits must be dismantled only after the valedictory function.

EVALUATION CRITERIA:

- Ø Display (Organization)
- Ø Science (Principle)
- Ø Creativity/Originality
- Ø Usefulness to Society
- Ø Oral Presentation

6. ON THE SPOT MYSTERY BOX CHALLENGE (OPEN CATEGORY)

Theme:

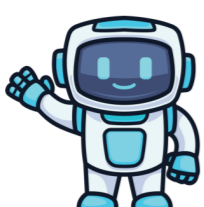
Generate a functional or innovative product based on the theme 'Save Energy' using the materials provided in the mystery box .

General Guidelines:

- Ø Each team will be consisting of THREE members.
- Ø Teams have 60 minutes to create an innovative solution/product using all the materials in the box. The product/solution made must be presented in front of the judges.
- Ø The solution must align with the theme.
- Ø Mystery Box may contain:
 - Everyday objects (e.g. cardboard tubes, straws, fabric scraps)
 - Recycled materials (e.g. plastic bottles, newspaper, cardboard boxes)
 - Art supplies (e.g. paint, markers, glue)
 - Scientific instruments (e.g. thermometers, magnets, LED lights)
 - Unconventional materials (e.g. slime, play dough, sand)
- Ø A "wildcard" material is added to the box, which must be incorporated into the solute/ product.

Judging Criteria:

- Ø Creativity and originality
- Ø Technical skill and craftsmanship
- Ø Alignment with the theme
- Ø Effective use of all materials in the box
- Ø Presentation and communication



DETAILED EVENT RULES

7. CODECANVAS-CODEX (SENIOR)

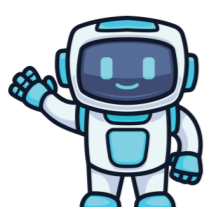
TOPIC	CATEGORY	CLASSES
Designing Mobile App- Solution to any real world problems	SENIOR	IX - XII

General Guidelines:

- Ø Each team will be consisting of THREE members.
- Ø The aim of this event is to design, build and present the most innovative app on the given topic.
- Ø Participants should create an Algorithm, Flow Chart and Source Code for their App (templates are not allowed).
- Ø Source Code's front end and back end can be designed using any programming languages / DBMS.
- Ø The team members should have thorough knowledge about their source code, design and features of their APP.
- Ø The final project must be an original work of the participants.
- Ø Team members should submit a project file in the pdf format comprising of Content, Introduction, Algorithm, Flow Chart, Source Code and Conclusion.
- Ø Date and Time for the interactive session will be informed by the host school through the School Coordinators.
- Ø Hardware (Laptop / Desktop) and software (for demonstrating the App / Software) WILL NOT be provided by the organizing school.
- Ø The participants are required to be well prepared to respond to the questions of the Judges, which will be based on the developed app (i.e. its source Code), to check the originality, features, user-friendliness, innovation, coding and design tools used.
- Ø The participants are expected to do the modification as per the instructions given by the Judgment Committee, on the spot.
- Ø All the members of the team should be present at the day of judgement at the host school to attend the Q & A session and interact with the Judges.
- Ø The organizers of STAI reserve the right to accept or reject the App which might be offensive or pose a safety threat to the participants or public.

Evaluation Criteria:

- Ø Originality and Creativity
- Ø Functionality and Applicability
- Ø Features and Interface design of the App
- Ø Coding Design & Problem Solving
- Ø Presentation, Q & A



DETAILED EVENT RULES

8. SYMMETRY OF SERENITY- MANDALA ART (OPEN CATEGORY)

Mandalas are intricate geometric designs that hold significant cultural and spiritual importance in various traditions. The creation of mandalas involves a deep understanding and application of several mathematical principles.

Scientific Mandalas

Theme:

Integrating scientific concepts and phenomena into mandala designs.

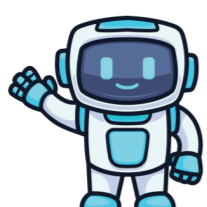
Idea:

Create mandalas inspired by the periodic table, the structure of DNA, fractals, or the solar system, blending art with science.

- Ø A team must comprise of 2 members.
- Ø Medium: Acceptable mediums include paper or canvas
- Ø Size: within the dimensions of 8x8 inches to 24x24 inches.
- Ø Duration: 2 Hours
- Ø Participants are allowed to use mathematical tools like compasses, protractors, and rulers to ensure precision in angles, measurements, and proportions
- Ø All stationery materials required must be brought by the participants
- Ø Mandalas must demonstrate clear symmetrical patterns, either radial or reflective.
- Ø Participants should use a variety of geometric shapes to create their designs.
- Ø The designs should show a high level of mathematical complexity and precision, reflecting an understanding of geometric principles.
- Ø Participants can use traditional or contemporary techniques, but the final work must reflect skill and creativity.

EVALUATION CRITERIA

- Ø **Creativity and Originality:** Uniqueness and innovation in design.
- Ø **Technical Skill:** Quality of craftsmanship and mastery of the chosen medium.
- Ø **Mathematical Elements:** Judges will evaluate the use of mathematical elements such as symmetry, shapes, tessellations, and fractals
- Ø **Aesthetic Appeal:** Overall visual impact and composition.
- Ø **Message Clarity:** Effectiveness in conveying a message about environmental awareness.



DETAILED EVENT RULES

9. Name the Mascot

**Calling All Students!
Meet Our Mascot:**



Come up with a creative and catchy name for the STAI 2024 mascot. The name should reflect the spirit of our tagline 'celebrating 21st century skills in Science.'

Submit your entry to the mail id:

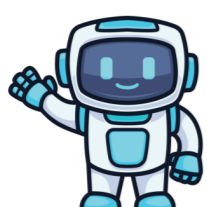
stai2024@indianschoolseeb.com

on 25th September 2024 from 8.00 a.m. to 8. 00 p.m.

- The student who suggests the winning name will receive a special prize during the Valedictory function.

Get Creative!

We can't wait to see what you come up with!

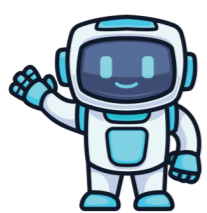




STAI - EVENTS AT A GLANCE



	Event	Time
Day 1 Saturday, 5th October 2024 Reporting time: 7:30 am	Rhythmic Rhapsody Revue - Skit	10:30 am -1:00 pm
	STEAM Summit- Exhibition Junior	10 am- 11 am
	STEAM Summit- Exhibition Senior	10 am- 11 am
Inauguration 9:00am	Symmetry of Serenity - Mandala Art	10:30 am- 12:30 pm
	On the spot Mystery box challenge	10:00 am- 11:00 am
Day 2 Sunday, 6th October 2024	Codecanvas- Coding	9:00 am-11:00 am
Valedictory function 4:00 pm	Science Wizard	9:00 am - 12 noon





Contact Details

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“Without change there is no innovation, creativity, or incentive for improvement. Those who initiate change will have a better opportunity to manage the change that is inevitable.”

