St. Joseph's College, Nainital

Biweekly Astropathshala Report

Week 1: 26 May 2025 (Monday) to 07 June 2025 (Saturday)

Day	Date	Class	Workshop	Educators
Monday	26 May 2025	8A	Summer break	
		2B		
		3B		
Tuesday	27 May 2025	3A	Summer break	
		4B		
		7B		
Wednesday	28 May 2025	7A	Nebula to galaxies	1. Richa ma'am 2. Karishma ma'am
		4A	Hands on with walking bot	
Thursday	29 May 2025	6A	Harnessing the solar energy	1. Richa ma'am 2. Karishma ma'am
		2A	Introduction to space robots (rovers)	
		8B	Spectroscopy	
Friday	30 May 2025	6B	Hydro Rocketry (completed the remaining half workshop)	1. Jagdish sir 2. Karishma ma'am
		1	Introduction to stars	
		5B	Telescope making	
Saturday	31 May 2025	5A	Telescope making	1. Jagdish sir 2. Karishma ma'am

Educators:

1. Richa ma'am
2. Jagdish sir
3. Karishma ma'am

* The classes highlighted in the above table with light red colour were not conducted due to summer break holidays.

Learning Outcomes of the Workshops for Week 1

Class	Workshop	Learning Outcomes	Activity
7A	From nebula to galaxies	• Understood what is nebula and its types • Recognized the structure and role of galaxies. • Learned about the parallax method.	• Students made a Parallax model and learned how to calculate distance of stars
4A	Hands on with walking bot	• Understood basic circuit and robotics principles • Learned about the parts and working of the walking bot. • Understood about the making process of walking bot.	• Students made walking bot and had a rover race.
6A	Harnessing the solar energy	• Learned the concept of solar energy. • Learned about the uses of solar energy. • Recognized the benefits of solar energy. • Learned about the future plans on solar energy.	• Worked on the solar city model, assembled the parts and power connections on the city model.
2A	Space robots (rovers)	• Understood the concept of space robots. • Identified the purpose of rovers. • Learned about the parts of the rovers. • Understood the working mechanism of the rovers.	• Demonstration of walking bot to understand the robot features. • Demonstration of a wired rover.
8B	Spectroscopy	• Understood the electromagnetic spectrum. • Learned about the use and importance of spectroscopes. • Understood the making and working process of spectrophotometer.	• Students made a spectrophotometer and observed the spectral lines with that.
6B	Hydro-Rocketry	• Students got to know how to make a rocket using recyclable plastic bottles and paper fins. • Learned the role of water pressure in launching hydro-rockets.	• Students made-hydro-rockets and launched them.
1	Introduction to stars	• Understood what are stars • Learned stars are spherical in shape. • Learned about the different colours of the stars. • Understood the importance of stars.	• Students made stars with the colourful clay balls.
5B	Telescope making	• Understood the basic function of a telescope. • Identified the main parts of a telescope. • Learned about the making process of looker.	• Students made lookers and had observations with that.
5A	Telescope making	• Understood the basic function of a telescope. • Identified the main parts of a telescope. • Learned about the making process of looker.	• Students made lookers and had observations with that.

Week 2: 02 June 2025 (Monday) to 07 June 2025 (Saturday)

Day	Date	Class	Workshop	Educators
Monday	2 June 2025	8A	Spectroscopy	1. Richa ma'am 2. Karishma ma'am
		2B	Introduction to space robots (rovers)	
		3B	Life of an astronaut (Part 1)	
Tuesday	3 June 2025	3A	Life of an astronaut (Part 1)	1. Richa ma'am 2. Karishma ma'am
		4B	Hands on with walking bot	
		7B	Past, Present and Future of universe	
Wednesday	4 June 2025	7A	Optics of Telescope	1. Karishma ma'am 2. Tanuj sir
		4A	Hands on with paper circuit and motor	
Thursday	5 June 2025	6A	Life cycle of stars	1. Jagdish sir 2. Karishma ma'am
		2A	Rover making and racing	
		8B	Dragonfly mission (theory+demo)	
Friday	6 June 2025	6B	Harnessing the solar energy	1. Jagdish sir 2. Karishma ma'am
		1	Journey to space	
		5B	Telescope pointing	
Saturday	7 June 2025	5A		1. Jagdish sir 2. Karishma ma'am

Educators:

1. Richa ma'am
2. Jagdish sir
3. Karishma ma'am
4. Tanuj sir

* The class highlighted in the above table with light red colour on 6 June 2025 was not conducted due to half-day declaration.

* The class highlighted in the above table with light red colour on 7 June 2025 was not conducted due to the holiday of Bakri Eid.

Learning Outcomes of the Workshops for Week 2

Class	Workshop	Learning Outcomes	Activity
8A	Spectroscopy	• Understood the electromagnetic spectrum. • Learned about the use and importance of spectroscopes. • Understood the making and working process of spectrophotometer.	• Students made a spectrophotometer and observed the spectral lines with that.
2B	Space robots (rovers)	• Understood the concept of space robots. • Identified the purpose of rovers. • Learned about the parts of the rovers. • Understood the working mechanism of the rovers.	• Demonstration of walking bot to understand the robotos features. • Demonstration of a rover.
3B	Life of a astronaut (Part 1)	• Students learned about the ISS. • Learned about life aboard the International Space Station. • Students recognized the unique challenges of living and working in space. • Explored how astronauts eat, sleep and exercise in space.	• Were shown real life videos of how astronauts spent their day on ISS.
3A	Life of a astronaut (Part 1)	• Students learned about the ISS. • Learned about life aboard the International Space Station. • Students recognized the unique challenges of living and working in space. • Explored how astronauts eat, sleep and exercise in space.	• Were shown real life videos of how astronauts spent their day on ISS.
4B	Hands on with walking bot	• Understood basic robotics principles. • Learned about the parts and working of the walking bot. • Understood about the making process of walking bot.	• Students made walking bot and had a rover race.
7B	Past, Present and Future of universe	• How the universe was formed? • Learned about the Big Bang event. • Role of gravity in shaping the universe. • Learned about the expension of the universe. • Understood the dark energy and dark matter.	• Students made a universe clock.
7A	Optics of Telescope	• Understood what a telescope is? • Learned about different types of telescopes. • Recognized the parts of the telescope. • Understood how the telescope works. • Understood the difference between lenses and mirrors.	• Demonstration of refraction and reflection. • Demonstration of telescope working mechanism with the help of lenses and Laser light.
4A	Paper circuit	• Understood the basics of electronics. • Identified simple electrical components like wires, batteries, bulb, motor and switches. • Students explored how electric current travels through a circuit.	• Students made paper circuits and attached motor with it.
6A	Life cycle of stars	• Students learned about the nebula as a star factory. • Students learned about the life cycles of average stars and massive stars. • Students understood how gravity and nuclear	• Students made a flip book of stars.

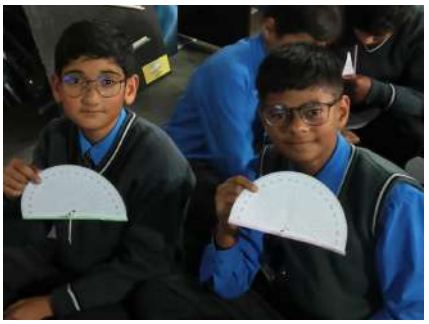
		fusion plays an important role in a star life.	
2A	Rover making and racing	• Understood the rovers as a space vehicle. • Learned about the parts of the rover. • Learned about the working process of the rovers.	• Students made their own rovers and tested them. • Students also did a rover race.
8B	Dragonfly mission (theory+demo)	• Learned about the dragonfly mission. • Understood why dragonfly mission is important for us. • Learned about the Titan atmosphere and its features. • Learned about the working process of drones.	• Demonstration of the drone to the class.
6B	Harnessing the solar energy	• Learned the concept of solar energy. • Learned about the uses of solar energy. • Recognized the benefits of solar energy. • Learned about the future plans on solar energy.	• Worked on the solar city model, assembled the parts and power connections on the city model.
1	Journey to space	• Basic introduction to space. • Understand the concept of space. • Recognize the importance of astronauts and space travel. • Identify basic space exploration tools.	• Students did the colour on their space journey drawing sheets.

Photos of Workshops and Activities

Week 1

Class 7A:
(From nebula to galaxies)





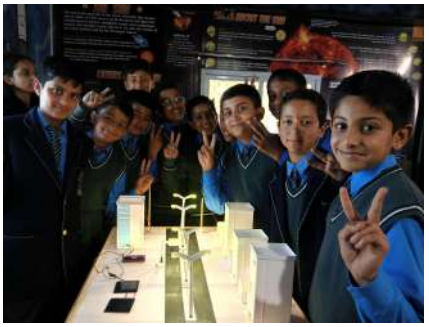
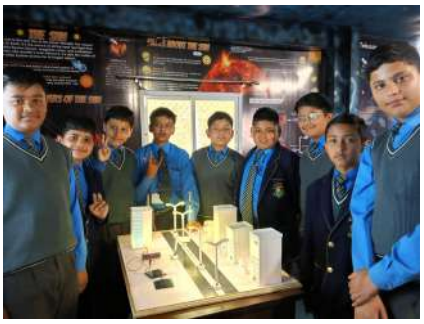
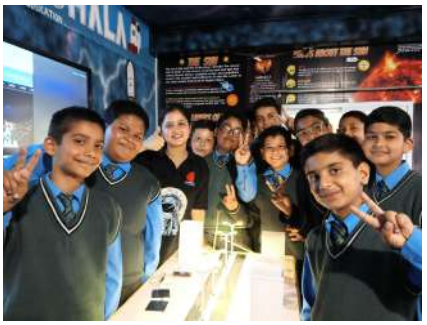

Class 4A:
(Hands on with walking bot)






Class 6A:
(Harnessing the solar energy)




Class 2A:
Introduction to space robots (rovers)






Class 8A:
(Spectroscopy)






Class 6B:
(Hydro Rocketry)






Class 1:
(Introduction to stars)





Class 5B:
(Telescope making)





Class 5A:
(Telescope making)






Week 2

Class 8A:
(Spectroscopy)






Class 2B:
(Space robots (rovers)





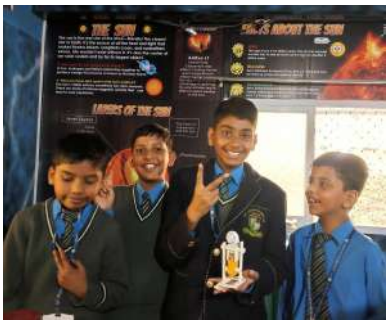
Class 3B:
(Life of an astronaut part -1)


Class 3A:
(Life of an astronaut part -1)


Class 4B:
(Hands on with walking bot)





Class 7B:
(Past, Present and Future of universe)



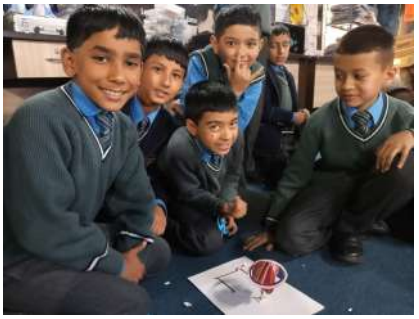


Class7A:
(Optics of Telescope)

Class 4A:
(Paper circuit with motor)







Class 6A:
(Life cycle of stars)





Class 2A:
(Rover making and racing)




Class 8B:
Dragonfly mission (theory+demo)

Class 6B:
(Harnessing the solar energy)





Class 1:
(Journey to space)