

# Science & Innovation Lab

## Survey of India (Sol), Dehradun

Imagine holding a map that shows every mountain, river, road and border of our country. Who makes these maps so accurate? The answer lies in one of India's oldest and most important scientific institutions: the Survey of India (Sol), based in Dehradun, Uttarakhand.

The Survey of India is the national mapping organization of our country. Established way back in 1767, it has been **measuring and mapping India for over 250 years!** From drawing the earliest paper maps to using satellites and drones today, Sol has been at the forefront of combining science, technology, and geography to understand the land we live on.

### The Science of Mapping

Surveying is much more than drawing maps; it's a blend of mathematics, physics, and geography. Scientists and surveyors at Sol measure distances, heights, and angles between points on the Earth's surface to create precise maps. They use technologies like GPS, remote sensing, and digital cartography to represent India's diverse terrain from the snowy Himalayas to the sandy deserts of Rajasthan.

Do you know that Sol was behind the **Great Trigonometrical Survey of India**, one of the most remarkable scientific projects of the 19th century? It was during this survey that the world's highest peak, Mount Everest, was measured for the first time in 1852!

The institution's accuracy and dedication made it one of the world's most respected mapping agencies.

### Maps that Shape Development

Today, the Survey of India supports everything from defence and disaster management to urban planning and environmental conservation. Its maps guide engineers building roads and railways, scientists studying earthquakes and administrators planning cities. It also helps in creating digital maps that power navigation apps and geospatial technologies, tools that we use every day!

### Inspiring Young Explorers

For students, Sol is a place where science meets adventure. Its scientists often visit schools and colleges to teach about geodesy, topography, and GIS (Geographic Information Systems), modern tools used to map the Earth.

### Mapping the Future

The Survey of India isn't just about the past; it's leading India into a digital mapping revolution. By blending tradition with technology, it ensures that every road, hill, and village is represented accurately. For young scientists, it's a reminder that science doesn't just explore the stars, it also helps us understand our own planet, one map at a time.

