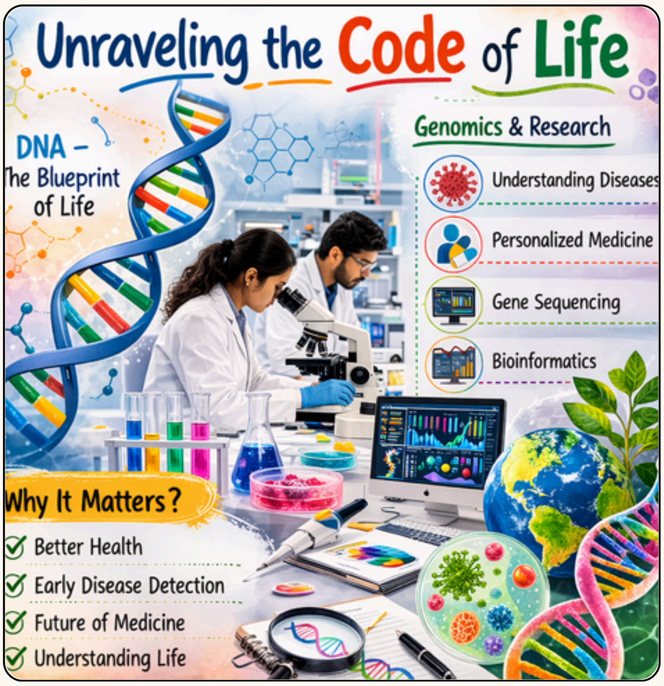
Science & Innovation Lab

IGIB - Institute of Genomics and Integrative Biology

Have you ever wondered what makes every human being unique? Why do some people have certain traits, or why do some diseases affect people differently? Scientists at the **CSIR-Institute of Genomics and Integrative Biology (IGIB)** explore these questions by studying **genes and DNA**, the tiny instructions inside our cells that determine how our bodies grow and function.

Located in **New Delhi**, IGIB is a research institute under the **Council of Scientific and Industrial Research (CSIR).** The institute focuses on **genomics**, which is the study of the complete set of genes in living organisms. By understanding genomes, scientists can learn how diseases develop and how better treatments can be created.



Researchers at IGIB use advanced technologies such as **DNA sequencing, bioinformatics, and molecular biology** to - study human health, microbes, and genetic disorders.

Their work has helped scientists understand diseases like **cancer, respiratory illnesses, and rare genetic conditions.**

During the COVID-19 pandemic, IGIB scientists also played an important role in **sequencing virus genomes,** which helped track how the virus was evolving.

Another fascinating area of research at IGIB is **personalized medicine.** Scientists are exploring how treatments can be designed based on an individual's genetic makeup. In the future, this could allow doctors to choose medicines that work best for each person.

Activity Idea for Teachers

Teachers can introduce the concept of genetics through a simple classroom activity.

Ask students to observe traits among classmates, such as **attached or detached earlobes, tongue rolling ability, or dimples**. Students can record how many classmates share each trait and discuss how these features are passed from parents to children.

This activity helps students understand **basic genetics and variation,** while also connecting classroom learning with real scientific research being carried out at institutes like IGIB.

It shows students that the study of DNA is not just a textbook topic it is shaping the **future of medicine and human health.**