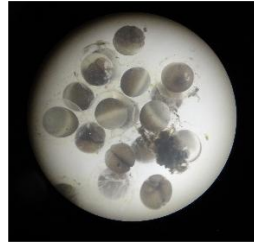


Super Science Laboratories I II III

Life Science Laboratories:

Laboratory of Immunology:

By transplanting goldfish scales to fish such as crucian, we observe receiver's immune response. Through the same procedure we also study "autotransplantation" -- transplantation of organs, tissues or even proteins from one part of the body to another in the same individual.



Laboratory of Developmental Biology:

A study of cell differentiation using embryos of African clawed frog, xenopus (*Xenopus laevis*) and snail.

Laboratory of Regeneration (Evo-Devo) Biology:

By analyzing contents of Ca^{2+} , K^+ , Na^+ , and pH in amputated tail of newt, we try to elucidate the secret of their tissue-engineering skills. We also study the regeneration system in planarians.



Laboratory of Food Chemistry:

To get a clearer understanding of difference between two different types of eggplant (*Kamo* and *Senryo*), we compare the quantities of anthocyanin contents in their peels.

Laboratory of Ecology and Animal Behavior:

Can a wood louse (*Armadillidium vulgare*) get to the bait hidden in a maze? we observe its interesting behavior. Another project is to examine the phototaxis process in water bears.

Hydrospheric and Biospheric Science Laboratories:



Ecological physiology:

A study of accommodation ability to osmic pressure in Gobiidae.

Piscine physiology:

A study of environmental adaptation of zebrafish (*Danio rerio*).

Piscine biochemistry:

An electrophoretic analysis of proteins derived from aquatic animals.

Laboratory of Geography:

To understand the aquatic environment in view of physical geography, we are researching *Kiyotaki* river system.





Microscale chemistry:

Based on the theory of *Green Sustainable Chemistry*, we are introducing microscale chemistry experiments using less materials and harmful substances to environment.

Mathematical Science Laboratory Group:

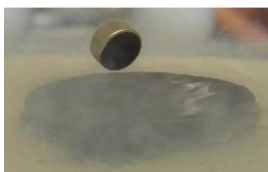
Number Theory Laboratory:

Based on Number theory, the laboratory members are researching cryptography.

Probability Theory Laboratory:

The laboratory members are studying probability theory which is useful in game strategy.

Physical Engineering Laboratory Group:



Low Temperature Physics Laboratory:

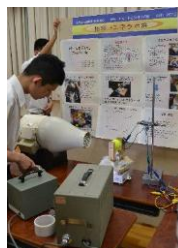
High-temperature copper-oxide superconductor is made and transition temperature is measured in the laboratory.

Fluid Mechanics Laboratory:

Pitching in baseball is taken as an example of fluid phenomena, wind stream around balls and lifting force on the balls is researched in the laboratory.

Electronic Engineering Laboratory:

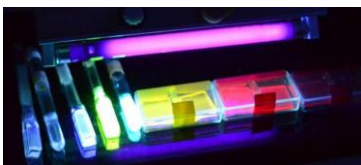
The laboratory members are designing logic circuits, and fabricating them by ICs etc.



Chemical Material Laboratory Group:

Inorganic Solid Material Laboratory:

Sol-gel synthesis of thin-film glass, liquid quenching synthesis of boron glass, and Ag nano-prism synthesis are researched in the laboratory.



Functional Polymer Laboratory:

Using conducting polymer, organic solar cells and artificial muscles are researched in the laboratory.

Organic Synthesis Laboratory:

Preparation method of ordinary medicine is researched, and synthesis of medicine for external use is attempted. And also, soap is synthesized from conventional oil, e.g. palm oil, and recycling of waste oil is studied in the laboratory.



Laboratory of Color and Science:

Coloring of cultural wealth is researched and preparation of its coloring material is attempted. And pigments from rose are analyzed by chromatography in the laboratory.