

CORAMANDAL COLLEGE OF EDUCATION

Medikonduru - 522 438, Guntur Dist.



Affiliated to Acharya Nagarjuna University

2024 - 2026

PEDAGOGY - II

Semester : 3rd

ACTIVITIES / PROJECT / RECORD.

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CERTIFICATE

This is to certify that Mr. / Mrs. / Kum Saumbhagya Jena
Class No. _____ Regd. No. Y25ED69036 of College of
Education visited our Institution and conducted the required activities / collected
the required data regarding to Pedagogy - II / Physical science
Practicum as a part of B.Ed. Course work stipulated by the Government of Andhra
Pradesh and approved by Acharya Nagarjuna University.

Signature of the Concerned Teacher

Name :

Signature of the Head of the Institution

Name :

Seal :

This is to certify that Mr. / Mrs. / Kum Saumbhagya Jena
Class No. _____ Regd. No. Y25ED69036 has completed the
required activities regarding to Pedagogy - II / Physical Science
Practicum towards fulfillment of B.Ed., Course work stipulated by the Government
of Andhra Pradesh and approved by Acharya Nagarjuna University.

This record

Lecturer in-charge

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Activity - 1

Prepare a logbook involving your demonstration of an experiment one each in physics and chemistry.

Physics experiments : To transfer charge by direct touching or by conduction.

Aim : Experiment to prove the transfer of charge by direct touching (or by conduction).

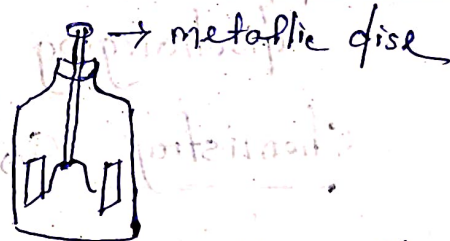
Material required : Ebonite rod, for Gold leaf electroscope.

Procedures :

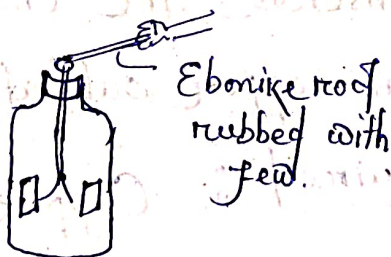
1. Place a gold leaf electroscope on your table.

2. Observe the gold leaves the gold leaves stick together.

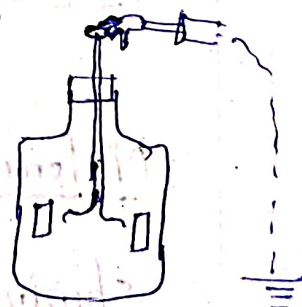
3. Rub an ebonite rod on fur and touch the rubbed side of the ebonite rod to the metallic.



There is no charge on the gold leaves
The gold leaves stick to each other.



The gold leaf diverge (open up) due to similar charge on them.



The gold leaf stick to each other due to no charge on them.

Gold leaf electroscope showing the charging and discharging.

4. Observe the gold leaves
5. The gold leaves show divergence that is the gold leaves still open up.
6. Now remove the ebonite rod. The leaves will still remain open.
7. Touch the metal disc of the electroscope with your hand and observe.
8. The gold leaves return to their original state i.e. they stick together.
9. Repeat the experiment by charging and discharging the gold leaf.

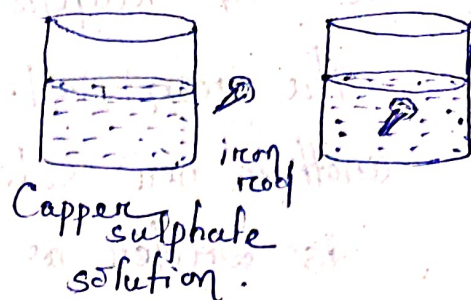
Chemistry . Experiment : Reaction of copper sulphate
with Iron rod .

Aim : To observe the change that take place when copper sulphate reacts with iron.

Material Required : Copper sulphate crystals a shining iron rod or nail . dilute sulphuric acid water a beaker and a test tube .

Procedures :

- 1) Fill half of the beaker with water.
- 2) Dissolve a few crystals of copper sulphate in it. Add a few drops of sulphuric acid in it.
3. Pour a small amount of this solution in a glass tube and keep aside.



change in colour of copper sulphate and iron due to chemical reaction b/w them.

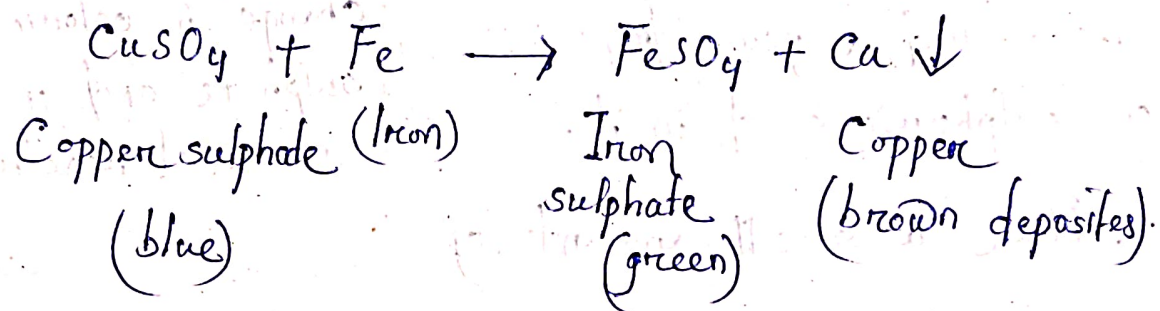
4. Drop a nail in the beaker and wait for sometimes.

Observation :

- (i) Copper sulphate dissolves in water to form a blue solution.
- (ii) On dropping iron nails the blue solution changed to green after sometimes.
- (iii) The surface of iron nails get coated with a dull reddish brown deposits.

Conclusion : Copper sulphate reacts with iron to form iron sulphate a new substance. Therefore the colour changes from blue to green.

The dull redfish brown deposit formed on the iron nail is due to the formation of another new substance copper the reactions is written as



Activity - 2

Prepare two improvised apparatus / teaching gadgets with locally available materials resources for physics and chemistry.

By presenting problems to children they can be encouraged to device apparatus for themselves a substitute for complex apparatus. If once the skill of the students is developed in improvising apparatus they repeat class experiments at home by homemade apparatus. It helps to improve their laboratory technique. Moreover science teaching is linked to everyday life. The pupils learn the habits of neat and accurate work as well as keen observation. They come to know that science is not a subject to be learnt and experimented upon with sophisticated apparatus only.

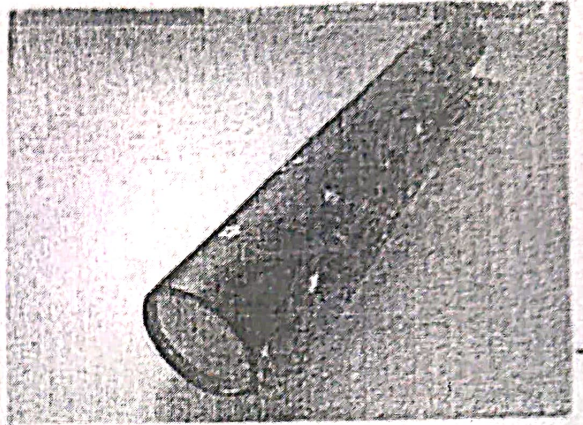
Values of improvisation are as follows

- 1) Economical saves much money by replacing costly equipments.

2. Develops useful habits like self confidence co-operation, reasoning, planning, resourcefulness and dignity of labour.
3. Develops skills and basic principles for developing apparatus.
4. It is a creative source of hobbies helps children to spend leisure properly.
5. Develops hand and head co-operation.
6. It helps to retain the knowledge for long term.
7. Creative instincts of the children are satisfied.
8. Children develop scientific thinking.
9. Develops problem solving skills.
10. Schools become self-sufficient.
11. Students improve their work by self criticism and auto suggestion.

Improved physics apparatus : Astronomical Telescope

To prepare astronomical telescope first two good body tubes were taken such as they can fix in to the other. Two lens of different focal length were fixed at the end of the tubes. The lens of low focal length same as the eye piece, say (2 cm) and of 15 - 30 cm. as the object lens.



Improved chemistry apparatus : Voltmeter.

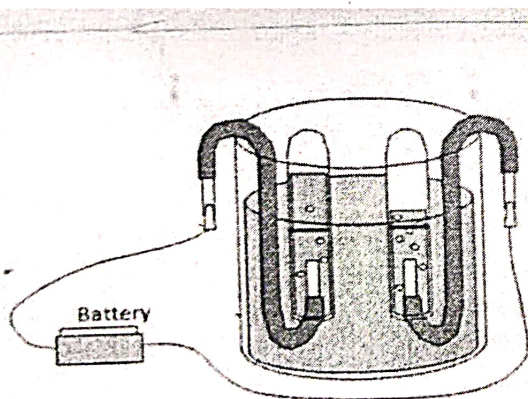


Figure 1 - Electrolysis Process

A plastic glass was placed with two holes at its bottom. Two copper wires were inserted, one in each hole. The glass was filled with acidulated water and two tubes were introduced one on

each wire one connecting wires to the terminals of a battery. Water will begin to decompose into hydrogen and oxygen.

Activity - 3

Visit a science centre or science museum (District/State/National) prepare a report

* Report on visit to Birla Industrial and technological museum.

Birla Industrial and technological museum Kolkata is an unit under national council of science museum the body of all the science centers/museum in India.

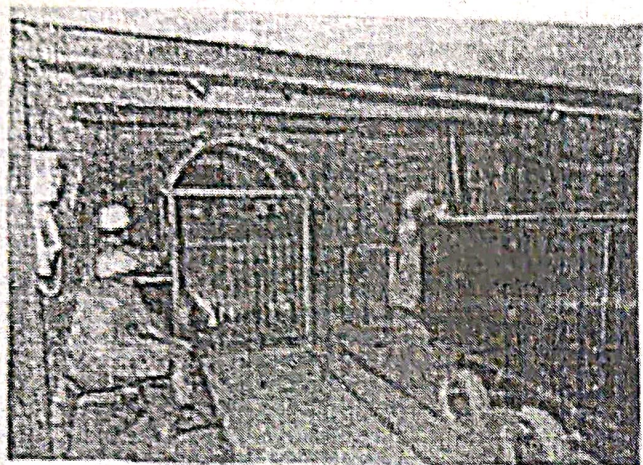
History : Birla Industrial and technological museum is situated at 19. A Gourisday Road, Kolkata. The property was bought by G.D Birla. From Tagore. Family in the year 1919. C.R. Das, Aurobinda Ghosh, Sister Nibedita, important foreign visitors like Yokoyama all famous Japanese artists frequented it at the time of Tagore. Again close association of G.D Birla with nationalist leaders brought Mahatma Gandhi. Motilal Nehru. Lala Lajpat Rai to this place.

In 1956 Dr. B.C. Roy then chief minister of West Bengal. Foresaw a big role of such museums of science, technology and industries in a developing country. This idea was noticed with that of ~~Sri~~ Sri G.D Birla and the property was formed over to pundit Jawaharlal Nehru the then Prime minister of India for setting up a science museum in Kolkata. After three years the museum was thrown open to the public on 2nd May 1959.

Development :

The BITM has galleries on mathematics @ life science. Biotechnology, fascinating physics Television and childrens. The ones that got a face lift were electricity, Transport popular science motive power and an underground mock up coal mine. With light and sound show, SD show was added in 2006.

To encourage syllabus oriented practical experiment multimedia software entitled virtual laboratories on chemistry and zoology have been



developed and are available in BICM library. In the areas of mobile science exhibition units of energy fun science, emerging technologies mathematics, electricity and magnetism global changes etc. have generalised a touch of among the rural masses.



Daily science shows on fun science magic article transtic chemistry.

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Balls Ballons and bubbles Egg - celenk super cool bodies and fire Y - core mask see items for all. Planetarium shows and sky observation through telescope rulers visitors having incination towards astronomy. In keeping with the age old of BIIM to encourage creativity among students a centers called Immovation hub, has been inagurated.

Activity - 4

Participate in distance / state level science fair and prepare a report on the exhibits and activities presented.

Science fair is an exciting opportunity for students to do research design experiments, collect and analyse data, make conclusions and shows their results with the scientific community.

The Eastern India science fair is one way to get involve and watch the knowledge to spread across budding minds of the next generation.

Students projects range from simple to complex and span all major areas of scientific study. Each project must include a poster, data tables, a data log and a three dimensional components such as the apparatus used to collect the data, projects are evaluated by a group of judges from the scientific.

technological and academic communities, students are given the opportunity to discuss their projects with each judge. They are given marks on the basis of their ability to represent new and exciting thoughts.



The fair is organised every year under supervisions of the national council of science exhibition, science museum, Ministry of culture Government of India inside the premises of the Birla Industrial and technology museum between 12th to 16th January. Students from 13 eastern states join in the examination.

I had been to the fair with four of my students and a senior colleague. We reached the fair in the morning. The place of fair was overcrowded with children. Students college students men and women. They were visiting each and every countries and paying attention to the demonstrations of the students reflected their good work and thought.

Different ideas and projects presented in the fair are : →

Life science Ideas :

1. Compare the germination of Monocot seeds and dicot seeds. Experiments with different factors like sunlight water fertiliser thank officers germination of seeds.
2. Experiments with how the pH of soil affects plant growth.

3. Study of protozoa using a microscope from local pond and any other water sample.

Truth science ideas :

1. Experiment with the effect of corrosion (by wind water etc. on different rock or soil types.
2. How vegetation can stop soil erosion.
3. Find out how temperature wind or humidity affects the rate of evaporation.

Physical science ideas :

1. Build your own light-bulb and experiments with what materials make the long lasting or brightest filaments.
2. By distilling variable water from salt water using sun.
3. Use a semi permeable membrane to experiment with osmosis. What kind of substances pass through the membrane and what substances don't.

Activity 75

Celebration of earth day in school :

Earthday is an annual event. Celebrated on April 22 on which day events world wide.

We held to demonstrate support for environment protections. It was first celebrated in 1970 and is now co-ordinated globally by earth day

Networks and celebrated in more than 193 countries each year.

On earth day 2016. the landmark paris agreement is scheduled to be signed by the united states china and some 120 other countries

This signing sets and a key requirements for the entry into force of the historic accord.

Climate protections clearly adopted by consequences of the 125 nations present at the 2015 united Nations climate change conference in paris.

In 1969, at the UNESCO conference in San Francisco Peace activities John Mc. Connell proposed a day to honour the earth and the concept of peace to be celebrated on March 21, 1970. The first day of spring in the northern hemisphere. This day of Newton's equinox was later sanctioned in a proclamation written by Mc. Connell and signed by secretary general U Thant of the United Nations. A month later a separate earth day was founded by United States senator Gaylord Nelson as an environmental teach in held on April 22nd 1970. Nelson was later awarded the Presidential medal of freedom award in recognition of his work. While this April 22. Earth day was focused on the United States an organization launched by Denis Hayes, who was the original national co-ordinator in 1970. took it international in 1990 and organized events in 141 nations numerous communities celebrate Earth week an entire week of activities focused on the environmental issues that the world faces.

Celebration of Earth day in school 22nd April 2016.

Earth day is celebrated in most of the schools to make children aware about environmental issues and also to develop sense of responsibility towards the community, society and environments. In Aditya academic senior secondary schools every year youth day is celebrated with social events and with a definite objective to work with.



In India people are least aware of their environment and due to high take of people are not aware about environmental hazards and how to proceed their environment. In the year 2016, 100th day was celebrated by the students of Aditya academy with an intention to make the local people aware about their environment. Students performed with hand-made presence. Wall painting was done by student and lectures on the student with theme of environment. Also student-play was performed to educate people about their environment.