Date: 07/08/2024

Time- 4:30 pm- 5:30 pm

Venue: Reaching Out near Patharghata

Student Coordinators: Rishita Paul, Saptarshi Mondal, Srijeeta Bose

Topics covered: Reflection through Prism

Introduction to light:

1. Laws of reflection
2. Properties of light
3. Types of images real and virtual
4. Concave, Convex plane mirror and its uses.
5. Concave and convex lenses and its uses
6. Magnifying glass

They had used real life examples to teach these topics so that they understand the concepts very well.

Date: 09/08/2024

Time- 4:30 pm- 5:30 pm

Venue: Reaching Out near Patharghata

Student Coordinators: Avik Agarwala, Sneha Roy

Topics covered: **Knowing the light**

- Familiarization with light
- Is light visible? Hands-on activity
- How shadow forms?
- Shadow art. Hands-on activity

Knowing the mirror

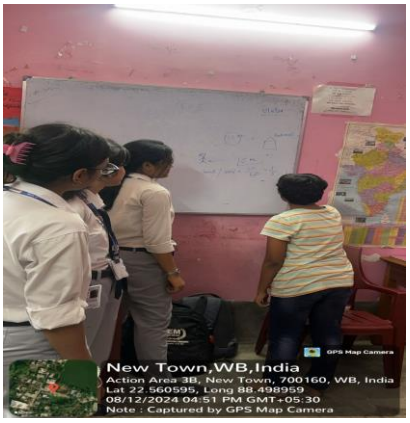
- Familiarization with mirror.
- Reflection
- Lateral Inversion of mirror (Hands-on)

Refraction

- Hands-on with basic details
- Pencil bends in glass of water (Hands-on)

Refreshment with logical reasoning

- Reasoning with sticks.



Date: 12/08/2024

Time- 4:30 pm- 5:30 pm

Venue: Reaching Out near Patharghata

Student Coordinators: Diptimayee Patra, Atreyee Chakraborty, Bipasha Roy

Topics covered: **1. Force and motion**

- ❖ Balanced and unbalanced force- Tug and war
- ❖ Gravity- Drop a ball
- ❖ Inertia-
- ❖ Friction- slide a box or a car in a smooth surface and a rough surface
- ❖ Momentum- give example of a big truck with a small toy car.
- ❖ Speed- Race time measurement.

Date: 21/08/2024

Time- 4:30 pm- 5:30 pm

Venue: Reaching Out near Patharghata

Student Coordinators: Nilanjan Saha, Meghamitra Banerjee

Topics covered: **1. Introduction to Electricity**

How to Cover: Start with a simple explanation of electricity using everyday examples like turning on lights**.** Ask students what would happen if there were no electricity.

- **Demo/Activity:** Show a video or images of different places with and without electricity. Use a small torch to demonstrate how light can be created without a power source.

2. Electric Cells

How to Cover: Explain that an electric cell (like a battery) stores chemical energy and converts it into electrical energy. Discuss the positive and negative terminals.

Demo/Activity: - Simple Experiment: Use a lemon battery Experiment. Insert a copper coin and a zinc nail into a lemon, connect wires to a small LED, and show how the LED lights up. This visually demonstrates how chemical energy is converted into electrical energy.

3. Torch Bulb and Filament

Topic to Cover: Structure and function of a torch bulb.

How to Cover: Explain that a torch bulb has a thin wire (filament) inside, and when electricity flows through it, the filament gets hot and glows.

Demo/Activity: Simple Experiment: Show a bulb connected to a battery. Explain the parts of the bulb and how the filament works. Ask students to predict what happens if the bulb is unscrewed slightly, breaking the circuit.

4. Conductors and Insulators

Topic to Cover: Difference between conductors and insulators.

How to Cover: Explain that conductors allow electricity to flow, while insulators do not.

Use examples like copper wires (conductors) and rubber or plastic covers (insulators).

Demo/Activity: Simple Experiment: Set up a small circuit with a battery, bulb, and wires. Provide different materials (e.g., a metal spoon, rubber band, piece of plastic) and ask students to test which materials allow the bulb to light up. This will help them understand conductors and insulators in a hands-on way.

Date: 23/08/2024

Time- 4:30 pm- 5:30 pm

Venue: Reaching Out near Patharghata

Student Coordinators: Avik Agarwala, Rajdeep Banerjee

Topics covered: **1. Fundamentals and types of numbers**

- ❖ Understanding of numbers
- ❖ Practical demo of the features of the number
- ❖ Hands-on: Dividing physical items, rationalising numbers, money exchange to demonstrate concept of negative number

2. Fractions and Decimals

- ❖ Basic understanding

- ❖ Giving real life examples
- ❖ Board work
- ❖ Hands-on: Understanding fractions with items, team formation etc.

3. Patterns and Sequences

- ❖ Understanding of pattern
- ❖ Importance of understanding pattern
- ❖ Mathematical Logic of pattern
- ❖ Pattern problem solving (board work)
- ❖ Hands-on: Build pattern, generate sequence etc.

4. Tricks and fun with mathematics

- ❖ Hands-on work: Play with sticks, cards, mind games with numbers etc.

Every topic will be taught with the help of examples, hands-on activities and by relating them with nature / real-life scenarios.

Date: 30/08/2024

Time- 4:30 pm- 5:30 pm

Venue: Reaching Out near Patharghata

Student Coordinators: Alik Agarwala, Sayantana Halder

Topic Covered:

Knowing the Unitary Method:

- **Familiarization with the Concept:**
  - Introduction to unitary method
  - Understanding 'per unit' value
  - Simple examples for clarity (e.g., cost of one apple)
- **Hands-on Activity:**
  - "Find the value of one" (Practical problems using real-life objects such as fruits, pencils, etc.)
  - Group exercise on calculating unit cost and extending to multiple units
- **Application to Real-life:**
  - Word problems involving price, time, and speed
  - Step-by-step solving of typical problems
- **Is the Unit Value Important?** (Hands-on Activity)
  - Group discussion and small projects demonstrating practical use of unitary method (e.g., converting prices for items in different quantities)
- **Understanding Direct and Inverse Relationships:**
  - Introduction to proportionality using unitary method
  - Differentiating between direct and inverse proportions

Date: 09/09/2024

Time- 4:30 pm- 5:30 pm

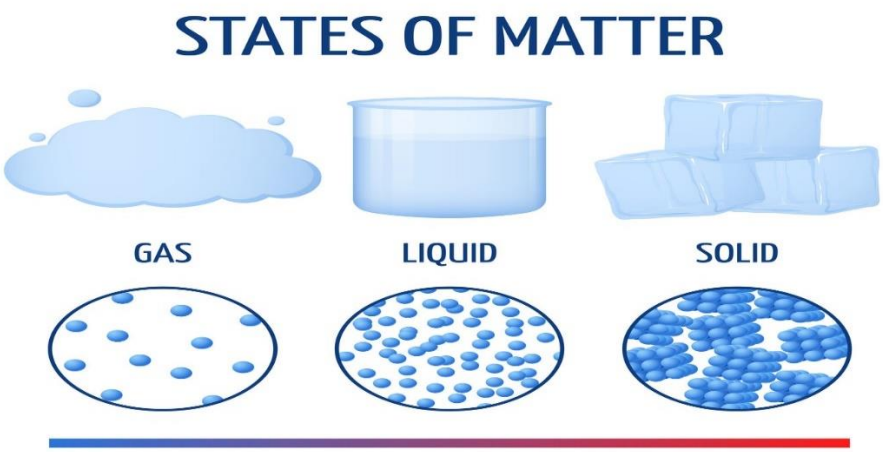
Venue: Reaching Out near Patharghata

Student Coordinators: Diptimayee Patra, Srijeeta Bose, Abeer Lal Nandi

Topics covered:

1) **Decimal multiplication and division** – by Diptimayee Patra and Abeer Lal Nandi

2) **Atom and Matter** – by Srijeeta Bose and Abeer Lal Nandi

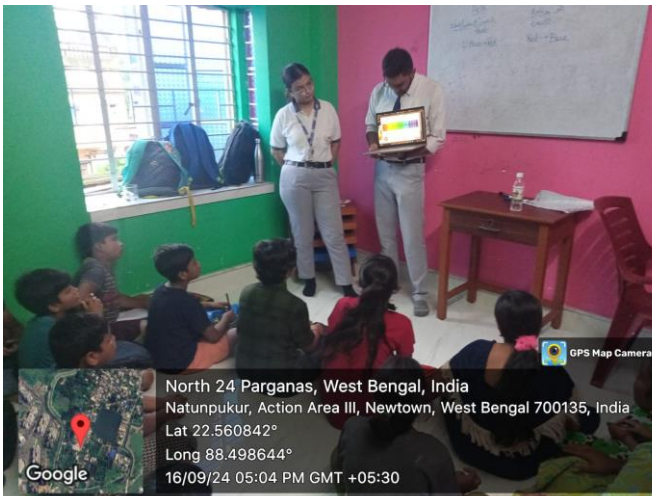


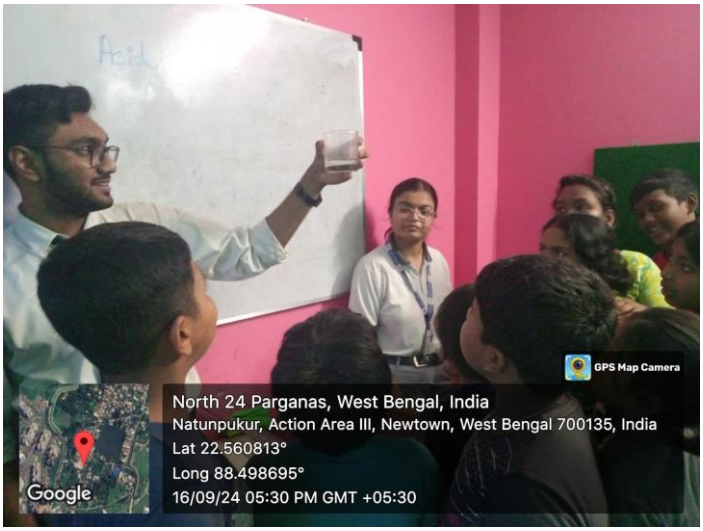
Experiments to be performed:

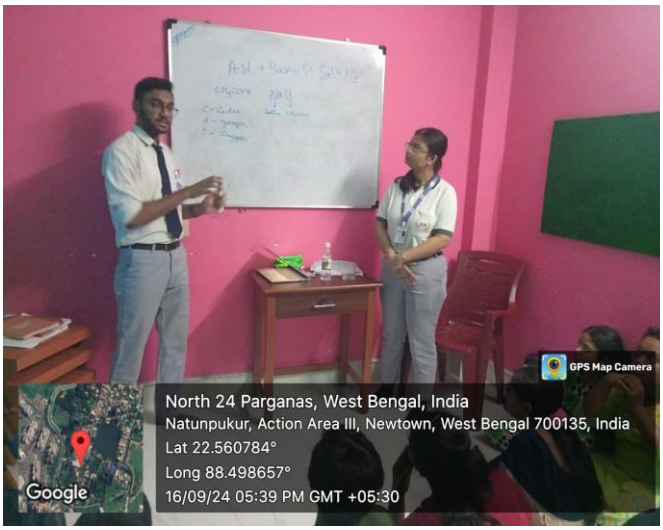
1) Dancing raisins experiment –

2) Experiments based on various properties of matter.


SOLID, LIQUID AND GAS







Date: 16/09/2024

Time- 4:30 pm- 5:30 pm

Venue: Reaching Out near Patharghata

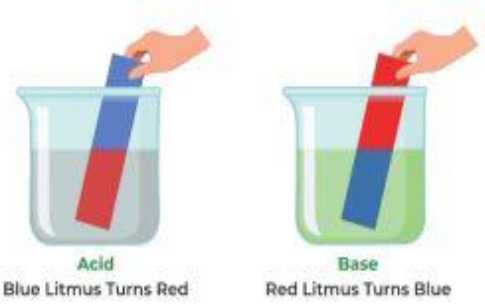
Student Coordinators: Nilanjan Saha, Meghamitra Banerjee

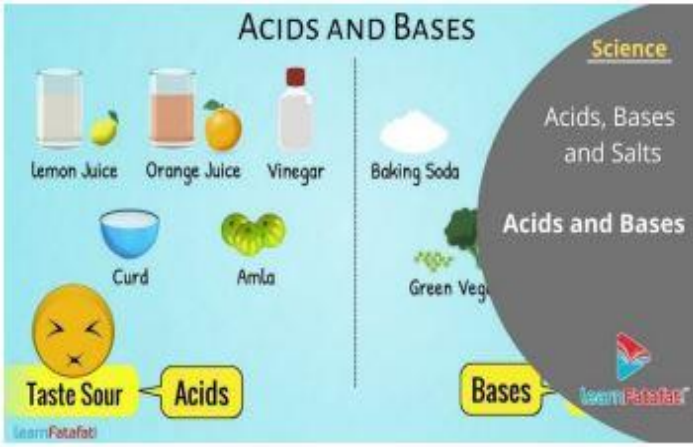
Topics covered:

1. **Introduction to Acids, Bases, and Salts**

Topic to Cover: What are acids, bases, and salts?

Demo/Activity: Show students examples of household acids (lemon, vinegar), bases (soap, baking soda), and salts (table salt). Let them guess which is which based on taste or feel (be cautious with tasting for acids and bases).





2. Indicators – Litmus Paper

Topic to Cover: How do we identify acids and bases?

Demo/Activity:

Experiment: Distribute red and blue litmus paper to students. Provide small cups of lemon juice, vinegar, soapy water, and baking soda solution. Let students test each solution and observe the colour changes on the litmus paper.

3. pH Scale

Topic to Cover: What is the pH scale and why is it important?

4. Neutralization Reaction

Topic to Cover: What happens when an acid reacts with a base?

Demo/Activity:

Simple Experiment: Mix vinegar (an acid) with baking soda (a base). The reaction will create bubbles

of carbon dioxide, showing a neutralization reaction. Explain that this is a gas forming reaction and the leftover solution contains salt and water.

5. Common Salts and Their Uses

Topic to Cover: What are salts, and how are they formed?

Demo/Activity:

Hands-On Activity: Provide different salts (table salt, Epsom salt) and discuss their uses. Ask students to share where they have seen these salts used at home.

6. Everyday Examples of Acids, Bases, and Salts

Topic to Cover: Relating acids, bases, and salts to everyday life.

Demo/Activity: Create a list of substances at home, and categorize them as acids, bases, or salts.

7. Acid Rain and Its Effects

Topic to Cover: How acids can be harmful.

Demo/Activity: Show pictures of the effects of acid rain on monuments or plants. Discuss how this relates to the properties of acids.

Final Wrap-Up

Recap the key concepts: acids, bases, salts, indicators, pH scale, and neutralization.

Encourage students to ask questions or share their thoughts.

End with a fun quiz or ask students to come up with their own examples of acids, bases, and salts.

Date: 21/10/2024

Time- 4:30 pm- 5:30 pm

Venue: Reaching Out near Patharghata

Student Coordinators: Nilanjan Saha, Diptimayee Patra, Ankush Dutta, Kajal Reddy, Tonima Das, Bidushi Chowdhury.

Activity: Our student coordinators distributed stationary kits to the children of 'Reaching Out' NGO. This initiative aimed to support the children's education and provide them with essential supplies. It was a meaningful event that highlighted the students' commitment to community service. The event brought smiles to the faces of the young beneficiaries, equipping them with vital educational tools to enhance their learning experience.

The stationery kits, carefully assembled by the college students, contained:

1. Pencil Pouch
2. Pencils
3. Pens
4. Eraser
5. Sharpener
6. 15 cm Scale
7. Chocolates

The distribution event was marked by:

1. Interactive sessions

2. Quiz

3. Joyful moments of engagement between the students and NGO children

This noble initiative fostered a sense of social responsibility, compassion, and community service among the college students, while providing valuable support to the NGO children.