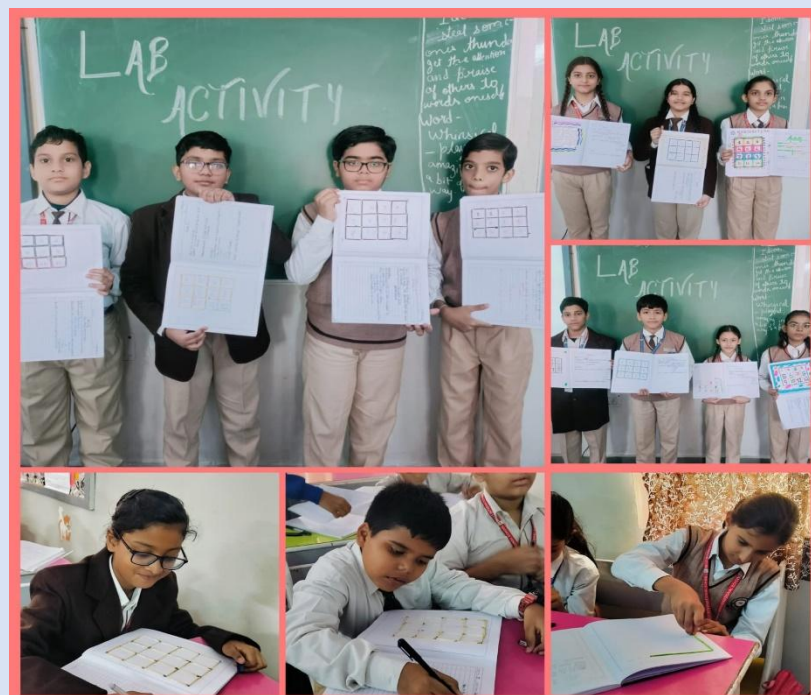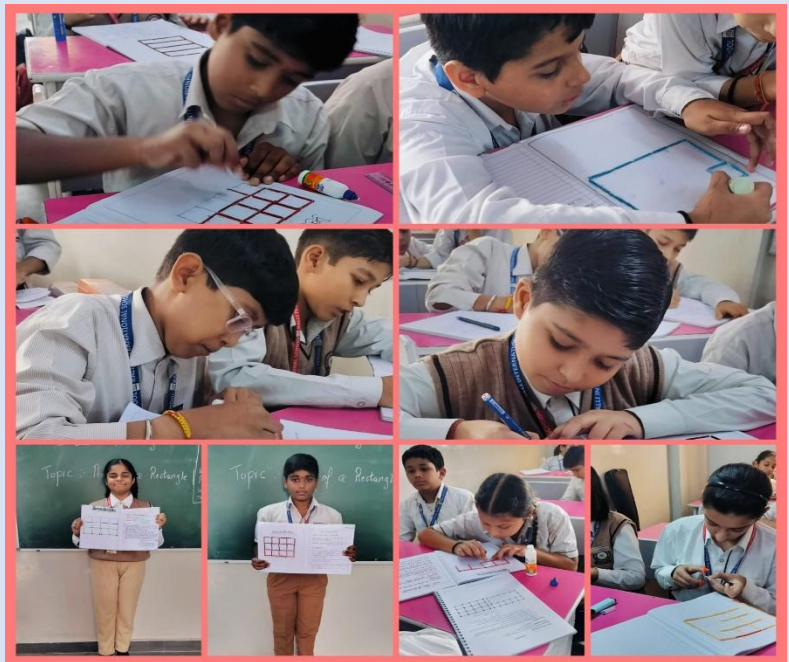## MATHS

CLASS VI

TOPIC: Area of a Rectangle

ACTIVITY: To verify the formula for the area of a rectangle.

INDIVIDUAL ACTIVITY

Understanding the concept of area is a fundamental aspect of geometry, as it helps us determine the space occupied by two-dimensional or three-dimensional figures. This concept is essential in various real-life scenarios, such as calculating the amount of material required to cover a surface or measuring the usable space within a boundary. The activity involved using matchsticks and grids to offer a practical, hands-on learning experience.

The activity began with students using matchsticks to form the outline of a rectangle. They were then guided to count the unit squares within the rectangle to determine the enclosed space. Through observation, students discovered that the number of unit squares could also be calculated by multiplying the rectangle's length and width, measured in terms of unit squares.

This approach not only reinforced the mathematical concept but also engaged students' kinesthetic skills, making the learning experience interactive and memorable. It allowed them to derive the formula for the area of a rectangle in an engaging way. By fostering critical thinking and spatial reasoning, the exercise deepened their understanding of geometry and its practical applications in everyday life.

CLASS VIII

TOPIC: Direct and Inverse Proportions

ACTIVITY: To check the direct proportionality of the perimeter and area with the side of the square.

INDIVIDUAL ACTIVITY

"The only way to learn Mathematics is to do Mathematics"

To enhance students' understanding of direct and inverse proportions, an interactive activity was conducted with Class VIII students. The aim of the activity was to help students grasp how the side of a square relates to its perimeter and area, with a focus on direct and inverse proportions. Students were given five squares of varying dimensions cut from a grid sheet. They then calculated the perimeters and areas of the squares by counting the grid squares and applying mathematical concepts in a practical setting.

Through this process, students observed that the side length of a square is in direct proportion to its perimeter but not to its area. This hands-on experience allowed students to visualize and understand the relationship between side length, perimeter, and area, illustrating the differences between direct and inverse proportions in a concrete manner.
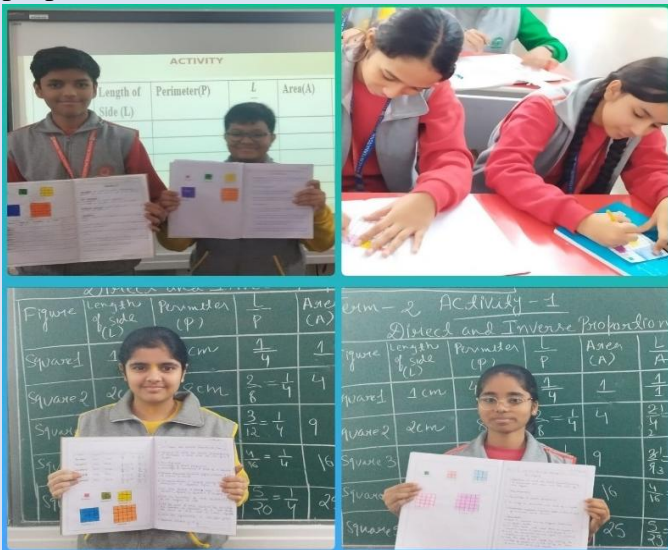
The activity was highly effective in engaging the students, as they not only participated enthusiastically but also gained a deeper and more practical understanding of the concept. By applying mathematical reasoning in a real-world context, students improved their comprehension of direct and inverse proportions, and the hands-on nature of the task reinforced their learning in a meaningful way.

SCIENCE

CLASS VI

TOPIC: Movement is possible only at joints.

ACTIVITY: To show that movement of part is possible only where two bones meet.

INDIVIDUAL ACTIVITY

The activity aimed at helping students understand the role of joints in movement. Students brought a stick and a piece of thread. First, they folded and unfolded their arms to observe the natural movement at the elbow joint. Then, they tied the stick along their arm, covering the elbow, and tried to bend their arm again.

They quickly realized that the stick restricted the movement, demonstrating that joints are the flexible points that allow movement. This hands-on activity helped students grasp the importance of joints, particularly in enabling the body to move, reinforcing their understanding of human anatomy.

TOPIC: Ball and Socket Joint
ACTIVITY: To show the movement of ball and socket joints.

INDIVIDUAL ACTIVITY

The aim of this activity was to help students understand the functioning of ball-and-socket joints in the human body. For this, students used a ball tied to a roll of paper to represent the ball, and a bowl to simulate the socket. They placed the ball inside the bowl and demonstrated how it could rotate in multiple directions.

As they rotated the ball within the bowl, students observed how this joint structure allows for a wide range of motion, similar to how the shoulder and hip joints move in the human body. The hands-on experience gave students a clear understanding of the flexibility and movement provided by ball-and-socket joints, emphasizing their role in enabling complex motions. The activity proved effective in demonstrating the concept, making it easier for students to relate to the movement in their bodies.

CLASS VII

TOPIC: Transportation in Animals and Plants
LAB ACTIVITY:

This activity aimed to demonstrate osmosis in plant cells. The teacher, guided students to create a potato cup, fill it with sugar syrup, and observe the fluid movement. Through this hands-on experiment, students witnessed how water moved from the potato cells into the syrup, illustrating the process of osmosis. The activity helped students understand the transportation of fluids in plants, enhancing their comprehension of plant biology.

TOPIC: Respiration in Animals
LAB ACTIVITY:

To show that carbon dioxide turns lime water milky.

The aim of this activity was to show how carbon dioxide turns lime water milky. The teacher demonstrated the experiment, and students exhaled carbon dioxide into lime water, causing it to turn milky.

Through this activity, students learned that the milky appearance results from the formation of calcium carbonate when carbon dioxide interacts with lime water. This hands-on experiment helped reinforce their understanding of respiration in animals.

SOCIAL SCIENCE

CLASS: VII

**TOPIC:** Contribution of Bhakti and Sufi saints in Hinduism and Islam

ACTIVITY: Road to the Divine

GROUP ACTIVITY

This activity aimed to explore the contributions of Bhakti and Sufi saints to their respective traditions. Students were divided into groups and assigned the task of creating PowerPoint presentations based on their research. Each group delved into the Bhakti movements led by Hindu saints and the role of Sufi saints in Islam, decoding various songs and poems associated with these movements.

The students shared detailed insights into how Bhakti saints challenged conventional norms in Hinduism and the simplicity promoted by Sufism in Islam. They also highlighted the cultural and spiritual contributions of Nathpanthis, Siddhas, and Yogis. This activity not only allowed students to showcase their research skills but also their poetic and technical abilities in presenting the information.

Through the activity, students learned the significance of both Bhakti and Sufi traditions, the importance of religious reform, and the value of teamwork. They effectively conveyed the contributions of these saints, presenting poems and songs in a lyrical manner, thus enhancing their understanding of cultural history.
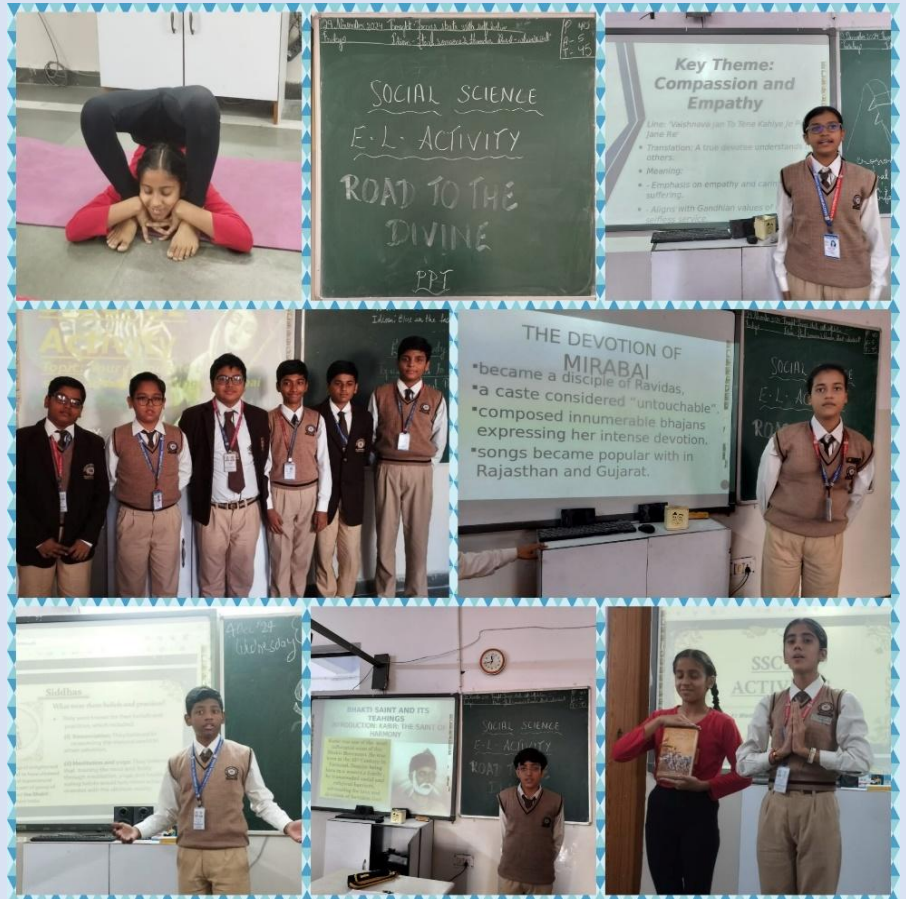
CLASS: VIII

TOPIC: Social Justice is Not Just a Dream, It's a Duty!

ACTIVITY: Role Play

GROUP ACTIVITY

Students presented a skit addressing social issues such as gender, racial, caste-based, and class-based discrimination. The activity aimed to help students understand the significance of social justice and the ongoing challenges faced by marginalized groups.

Through their performances, students gained insights into the real-life implications of these issues and the need for societal change. They also discussed how to shift people's

mindsets and their role in building an inclusive future. By exploring these topics, students also learned about the provisions of the constitution for marginalized groups and the importance of fostering an inclusive society.

The activity enabled students to comprehend national goals like justice, liberty, and equality, and realize the struggles faced by disadvantaged groups. It helped them recognize the importance of inclusivity in a democracy and the efforts made to promote social development. Through their role-plays, students effectively created awareness about social justice, fostering a deeper understanding of these crucial issues.

COMPUTER SCIENCE

CLASS VII

TOPIC: HTML
ACTIVITY: Hunt and fix the bugs: Debugging
SUBJECT ENRICHMENT ACTIVITY

Debugging is an essential part of the coding process, allowing programmers to identify and correct errors in their code for desired functionality. The "Hunt and Fix the Bugs" activity was conducted to help students develop debugging skills by analyzing, correcting, and executing an HTML code snippet. The session began with a discussion on the importance of debugging in programming and its role in improving code quality. A sample HTML code with deliberate errors was given to the students. Each student was instructed to examine the code, identify the bugs, and make corrections. Students used an HTML editor, Notepad to edit the provided code. After making corrections, they ran the code in a web browser to verify the output. Through this activity, students learn to recognize common HTML syntax/structural errors and understand the correct use of HTML tags and attributes.

TOPIC: JavaScript
ACTIVITY: Decode and Display: Find the output of the given code in JavaScript.
SUBJECT ENRICHMENT ACTIVITY
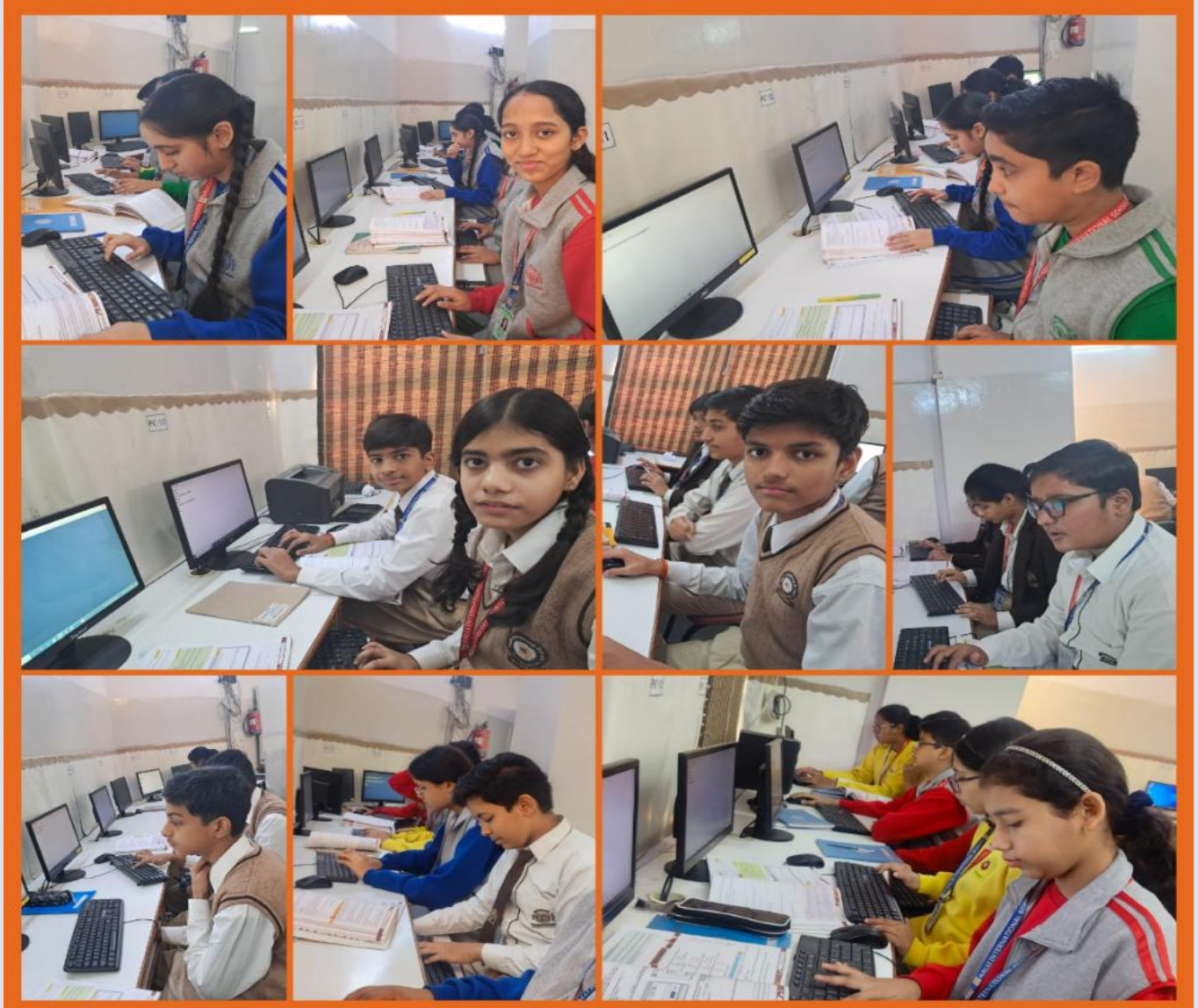
Programming often involves understanding and predicting the behavior of a code snippet. The "Decode and Display" activity was conducted to help students develop logical reasoning and analytical skills by analyzing JavaScript code and predicting its output. The session began with a short discussion on JavaScript's role in creating dynamic web content. Basic JavaScript constructs like variables, functions, loops, and conditional statements were briefly reviewed. Students were given a JavaScript code snippet that included a mix of variable declarations, operations, and logic. The code contained no errors but required careful analysis to predict its output. Students used internal JavaScript and executed the code in the browser to display the output. Through this activity, students develop a deeper understanding of JavaScript syntax and programming constructs and strengthen logical reasoning abilities by predicting the outcome of code execution based on the given input.