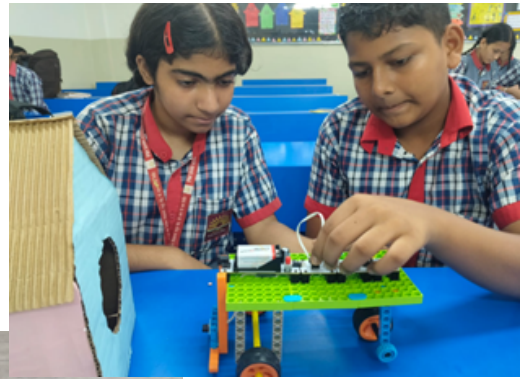




# Work Experience ACTIVITIES



आंचलिक शिक्षा एवं प्रशिक्षण संस्थान, चंडीगढ़

ZONAL INSTITUTE OF EDUCATION AND TRAINING, CHANDIGARH

**संरक्षक**



**श्री विकास गुप्ता, भा. प्र. से.  
आयुक्त**

केन्द्रीय विद्यालय संगठन, नई दिल्ली



**सुश्री चंदना मंडल  
अपर आयुक्त (शैक्षिक)**



**श्री डी. मणिवण्णन  
संयुक्त आयुक्त (प्रशिक्षण)**



**श्रीमती श्रुति भार्गव  
उपायुक्त एवं निदेशक,  
आंचलिक शिक्षा एवं प्रशिक्षण संस्थान, चंडीगढ़**

## कार्यशाला का नाम

"स्कूलों में सुरक्षा और अधिकार सुनिश्चित करना" विषय पर  
टीजीटी (कार्य अनुभव) हेतु तीन दिवसीय कार्यशाला

दिनांक: 08.12.2025-10.12.2025

### समन्वयक एवं संसाधक

**डॉ रमाकांत उपाध्याय**

प्रशिक्षण सहायक (जीव विज्ञान)

आंचलिक शिक्षा एवं प्रशिक्षण संस्थान, चंडीगढ़

### संसाधक

**श्री कृष्ण कुमार मिश्र**

टीजीटी (कार्य अनुभव)

पी एम श्री केन्द्रीय विद्यालय वसंत कुंज प्रथम पाली, दिल्ली

### संपादन एवं संकलन

- डॉ रमाकांत उपाध्याय
- श्री कृष्ण कुमार मिश्र

## प्राक्कथन

विद्यालय केवल शैक्षणिक ज्ञान प्रदान करने का केंद्र नहीं है, बल्कि यह विद्यार्थियों के समग्र विकास का सशक्त माध्यम भी है। शिक्षा का उद्देश्य विद्यार्थियों में जीवनोपयोगी कौशल, सृजनात्मकता, कार्यकुशलता तथा आत्मनिर्भरता का विकास करना है। इस दिशा में “कार्य अनुभव” शिक्षा का एक महत्वपूर्ण घटक है, जो विद्यार्थियों को सीखते हुए कार्य करने और कार्य करते हुए सीखने का अवसर प्रदान करता है।

पीएम श्री विद्यालयों में कार्यरत प्रशिक्षित स्नातक शिक्षक (कार्य अनुभव) विद्यार्थियों में कौशल आधारित शिक्षा, श्रम के प्रति सम्मान, रचनात्मक अभिव्यक्ति तथा व्यावहारिक दक्षताओं के विकास में महत्वपूर्ण भूमिका निभा रहे हैं। उनके द्वारा विभिन्न गतिविधियों - जैसे हस्तकला, पुनर्चक्रण, स्थानीय संसाधनों का उपयोग, उद्यमिता आधारित परियोजनाएँ, पर्यावरण संरक्षण गतिविधियाँ, तथा जीवन कौशल आधारित कार्य के माध्यम से विद्यार्थियों को वास्तविक जीवन से जुड़ा शिक्षण अनुभव प्रदान किया जा रहा है।

यह प्रकाशन कार्य अनुभव से संबंधित विभिन्न गतिविधियों का संकलन प्रस्तुत करता है, जो शिक्षकों की नवाचारपूर्ण सोच, सृजनात्मक दृष्टिकोण और समर्पित प्रयासों को दर्शाता है। यह न केवल विद्यार्थियों में कौशल विकास को प्रोत्साहित करता है, बल्कि अन्य शिक्षकों के लिए भी प्रेरणास्रोत एवं मार्गदर्शक के रूप में उपयोगी सिद्ध होगा।

मुझे विश्वास है कि यह प्रकाशन कार्य अनुभव शिक्षा को और अधिक प्रभावी बनाने, शिक्षकों के उत्कृष्ट प्रयासों को साझा करने तथा कौशल आधारित शिक्षण को प्रोत्साहित करने में महत्वपूर्ण भूमिका निभाएगा। मैं इस प्रकाशन से जुड़े सभी शिक्षकगणों, संकलनकर्ताओं एवं सहयोगियों को हार्दिक बधाई एवं शुभकामनाएँ देती हूँ।

(श्रुति भार्गव)

उपायुक्त एवं निदेशक

आंचलिक शिक्षा एवं प्रशिक्षण संस्थान, चंडीगढ़

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## **How to Wire a Switch Board?**

**Class: Middle stage**

**Number of the Participants:** 50 in each Section

**Duration:** 2 hrs

### **Description:**

This assignment focused on the practical skill of wiring a domestic switch board containing switches, a socket, and a fuse/indicator. The session began with an explanation of the basic electrical components and the color-coding standard for wires (Red/Brown for Phase, Black/Blue for Neutral, Green for Earth). Participants were taught how to create a parallel connection for sockets and series connections for switches and fuses. The activity aimed to demystify household electrical circuits and provide hands-on experience in stripping wires, tightening terminals, and organizing internal wiring for safety and efficiency.

### **Important instructions:**

1. Preparation: Ensure all tools (tester, wire stripper, screwdriver) and components (switch board, 3-pin socket, switches, wire) are ready before starting.
2. Phase Connection: Connect the Phase (Live) wire to the bottom terminal of all switches.
3. Socket Connection: Connect the output terminal (top) of the switch to the 'L' (Line) terminal of the socket.
4. Neutral Connection: Connect the Neutral wire directly to the 'N' terminal of the socket and the indicator (if present).
5. Earthing: Connect the Green (Earth) wire strictly to the top (thicker) terminal of the socket.
6. Tightening: Ensure all screws are tightened properly to prevent loose connections and sparking.

### **Safety Measures Followed:**

- Power Isolation: Verified that the main power supply was completely turned off before touching any live wires.
- Insulated Tools: Only screwdrivers and pliers with proper rubber insulation handles were used.
- Continuity Check: A series test lamp or multimeter was used to check connections before energizing the board.



- Proper Footwear: Participants wore rubber-soled shoes to prevent electrical grounding.

**Learning Outcomes:** participants were able to:

- Identify the function of Phase, Neutral, and Earth wires.
- Demonstrate the correct wiring sequence for controlling a socket with a switch.
- Troubleshoot basic se connections in a switch board.



Name of the teacher: Atul Kumar

Designation: TGT (WE)

Name of KV: PM SHRI Khichripur, Delhi

## **WEEDING ACTIVITY IN SCHOOL KITCHEN GARDEN**

**Class:** Middle stage

**Number of the Participants:** 20

**Duration:** 20 MINUTES

### **Description:**

Weeding is a vital maintenance activity in school kitchen garden that prevents invasive plants from competing with crops for sun light, water and nutrients. The essential tools for weeding are hand cultivator which is used for loosening soil and pulling up shallow weeds. Gardening trowel is effective for digging out deep rooted perennial weeds. Gardening gloves protects hands from thorns, insects and soil borne bacteria.

For a successful weeding session follow these organised steps

1. Identification: Students should differentiate between crops and common weeds.
2. Loosening: Use hand forks to loosen the earth around the weed's base.
3. Root removal: Ensure the entire root is pulled out as many weeds can regrow from small fragments left behind.
4. Sorting: Separate good annual weeds (which can be composted) from bad perennial weeds with thick roots that might survive the composting process.
5. CleanUp: Collect all removed weeds in buckets and return soil to the beds.

### **Important instructions:**

#### **Safety Measures Followed**

1. Equip students with the right child friendly tools ensures safety and efficiency.
2. In the course of weeding activity safety of the original plants should be taken care up.
3. Students should well equipped as per the need and safety requirement.

### **Learning Outcomes**

1. Weeding as a mindfulness activity and it help students focus and connect with nature.
2. Students learn about weed lifecycles i.e annual, biennial and perennial.
3. Maintaining the garden increases student interest in eating the vegetables they have helped grow such as carrots, beans and leafy greens.
4. It develops teamwork quality among the students.





Name of the teacher: Ashwani Kumar Jena

Designation: TGT(WE)

Name of KV: NO.2 Faridabad

## Nutrient Film Technique (NFT) with Timer Control

**Class:** Middle stage

**Number of the Participants:** 40

**Duration:** 2 weeks

### Description:

#### Introduction

Hydroponics is a modern method of growing plants without soil, using a nutrient-rich water solution. In the Nutrient Film Technique (NFT), a thin film of nutrient solution continuously flows through a slightly sloped channel or pipe where plant roots are suspended. The flowing water provides nutrients, water, and oxygen directly to the roots.

#### Objective

To design and demonstrate a small-scale NFT hydroponic system that:

Circulates nutrient solution using a water pump, and Uses a timer or Arduino controller to operate the pump periodically (automatically ON and OFF).

### Important instructions:

#### Materials Required

| Component                                   | Purpose                        |
|---------------------------------------------|--------------------------------|
| PVC pipes or NFT channels                   | To hold plant cups             |
| Net pots or plastic cups with holes         | To support plants              |
| Air pump or 220 V water pump                | To circulate nutrient solution |
| Reservoir tank                              | To hold nutrient water         |
| NPK (20:20:20) and calcium nitrate          | For nutrient solution          |
| PH meter / paper strips                     | To check pH of nutrient water  |
| Arduino + relay module / digital timer plug | To automate pump operation     |
| 9 V or 5 V adapter                          | To power Arduino               |
| Tubing, connectors, slope stand             | For water flow                 |

#### Working Principle

1. The nutrient solution is stored in a reservoir tank.
2. A submersible pump pushes the solution up to the NFT channels.

3. A thin film of water flows along the slope, bathing plant roots.
4. Excess solution drains back into the reservoir — forming a closed loop.
5. A timer or Arduino controls the pump to operate periodically (e.g., ON 15 min / OFF 45 min), saving power and preventing root over-watering.

### **Role of Timer / Controller**

Ensures periodic flow of nutrient solution.

Prevents continuous running of the pump.

Reduces energy consumption and extends pump life. Can be set using:

### **Digital timer plug, or**

Arduino + relay + code.

Wiring Diagram (conceptually)

Arduino D7 → Relay IN

Arduino 5 V → Relay VCC

Arduino GND → Relay GND

Relay COM → AC Live (from supply)

Relay NO → Pump Live

Pump Neutral → AC Neutral

The relay acts as an automatic ON/OFF switch for your AC pump.

### **6. Arduino Code (Example)**

In pump = 7;

Void setup () {pin Mode (pump, OUTPUT) ;}

Void loop () {

Digital Write (pump, HIGH); // Pump ON

Delay (900000); // 15 minutes

Digital Write (pump, LOW); // Pump OFF

Delay (2700000); // 45 minutes

}

This allows roots to stay moist and oxygenated even when pump is off.

### **Importance of pH and EC**

PH range: 5.5 – 6.5 (slightly acidic)

Below 5.0 → Add a mild base (pH up or small amount of baking soda).

Above 7.0 → Add a few drops of weak acid (lemon juice or vinegar).

EC (Electrical Conductivity): Indicates nutrient concentration.

Checked using an EC meter.

### **Advantages of NFT System**

Efficient water and nutrient use

Faster plant growth

No soil pests or weeds

Reusable system

Easy to automate

### **Applications**

Indoor farming

School hydroponic labs

Urban terrace gardens

Research on nutrient optimization

### **Safety Measures Followed**

1. Always keep electric pumps, timers, Arduino, and adapters away from water.
2. Never mix dry NPK and calcium nitrate together — mix separately in water.
3. Check pipes and joints regularly to prevent leakage or overflow.
4. Ensure proper drainage so water does not accumulate on the floor.
5. Do not allow nutrient solution to stagnate; stagnant water can cause algae and mosquito breeding.

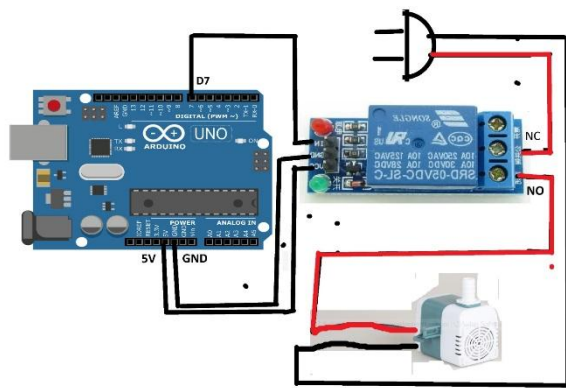
### **Learning Outcomes: students will be able to-**

- Explain the working principle of Nutrient Film Technique (NFT).
- Learn automation skills by using a timer or Arduino controller
- Promote sustainable agriculture using less water and space.
- Apply scientific and problem-solving skills in real-life farming systems.

### **Conclusion**

The NFT hydroponic system with a timer is an energy-efficient and sustainable method to grow plants using limited resources. By automating pump operation, we can maintain proper nutrient flow, conserve electricity, and support healthy root development even during power variations.





**TIMER CIRCUIT FOR HYDROPONICS**



Name of the teacher: Babita Gusain  
 Designation: TGT(WE)  
 Name of KV: PM SHRI KV Saurkhand

## **“STORYTIME WITH PUPPETS”**

**Class:** Middle stage

**Number of Participants:** 40 students

**Duration:** 4 periods

### **Description:**

The activity “Story time with Puppets” aims to develop communication skills, creativity, confidence, and teamwork among students through puppet making and storytelling. As per Students were introduced to different types of puppets such as hand puppets, finger puppets, stick puppets, and sock puppets.

The students are demonstrated the process of making simple puppets using paper, cloth scraps, socks, cardboard, ice-cream sticks, wool, and waste materials. Students worked in small groups to design puppets and create short stories based on themes such as moral values, cleanliness, kindness, environmental awareness, and honesty.

Each group presented a short puppet show, focusing on voice modulation, expressions, coordination, and message delivery. The activity helped students understand storytelling as a powerful tool for learning and expression.

### **Important Instructions:**

- Use only safe and soft materials for puppet making.
- Scissors and cutters to be used under teacher supervision.
- Stories should be age-appropriate and value-based.
- Each group must ensure equal participation of all members.
- Maintain cleanliness of the classroom and workspace.
- Puppets and props must be properly stored after the activity.

### **Safety Measures Followed:**

- Safety scissors were provided to students.
- Students are demonstrated correct handling of tools.
- Hot glue gun was handled only by the teacher.



- No sharp or hazardous materials were allowed.
- Students washed hands after the activity.
- Seating arrangement ensured free movement and no overcrowding.

**Learning Outcomes:** students were able to:

- Identify different types of puppets and their uses.
- Create puppets using low-cost and waste materials.
- Improve confidence and public speaking abilities.
- Appreciate puppetry as a form of art and cultural expression.



Name of the Teacher: Chhavi Aggarwal

Designation: TGT, Work Experience

Name of KV: PM SHRI KV Sector 3, Rohini

## **TIE AND DYE**

**Class:** Middle stage

**Number of the Participants:** 40

**Duration:** 06 PERIODS

**Subject:** Vocational Education **General Objectives**

- To develop aesthetic and creative skills in students through craft-based learning.
- To introduce the cultural and traditional craft of Tie and Dye.
- To provide hands-on experience in textile designing.
- To make students aware of eco-friendly practices and sustainable fashion.
- To develop vocational skills useful for future entrepreneurship.

### **Specific Learning Outcomes**

- Explain the concept of Tie and Dye and its traditional significance.
- Identify and describe different folding and tying techniques (spiral, stripe, crumple, bandhani).
- Demonstrate the step-by-step process of Tie and Dye independently/in groups.
- Create unique textile designs with imagination and neatness.
- Reflect on the importance of sustainability by using natural dyes and recycling old fabrics.

### **Instructional Concepts**

Concept of Basic Dyeing and its application in textiles.

**Folding and Tying Techniques – Bandhani** → Dots & circles (tie small parts).

**Leheriya** → Waves & stripes (tie diagonally).

**Shibori** → Crackled designs.

**Kalamkari** → Story painting with pen & natural colors.

**Ajrakh** → Geometric block prints (blue/red shades).

**Preparation of Dye** – natural and synthetic.

**Application of Dye on Fabric** – immersion, multiple colors.

**Drying and Final Observation of patterns.**

### **Teaching-Learning Resources**

- Cotton cloth (preferably white, washed)

- Rubber bands, strings, threads
- Bowls/buckets with water
- Natural dyes (turmeric, onion peel, beetroot, hibiscus) or synthetic dyes
- Gloves, aprons, newspapers for protection
- Multimedia support: pictures and short videos of traditional Bandhani and Leheriya
- QR code for Tie & Dye Project tutorials.



## **Step-by-Step Procedure of Tie and Dye**

### **Step 1 & 2: Preparation of Fabric**

- Wash the cotton cloth to remove starch and dirt.
- Keep the cloth slightly damp for better dye absorption.

### **Step 3: Preparation of Dye**

- Prepare bowls with natural or synthetic dyes.
- Natural dyes can be extracted by boiling turmeric, onion peel, or beetroot.

### **Step 4: Folding and Tying**

- Spiral Method: Pinch the center and twist fabric into spiral, tie with rubber bands.
- Stripes: Fold cloth accordion-style and tie at equal intervals.
- Crumple: Randomly bunch cloth into a ball and tie with strings.
- Bandhani Style: Tie small knots with thread to form dots.

### **Step 5: Dyeing the Fabric**

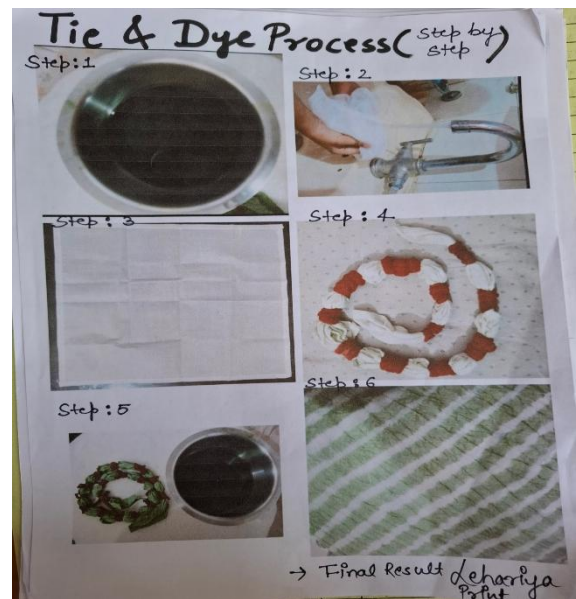
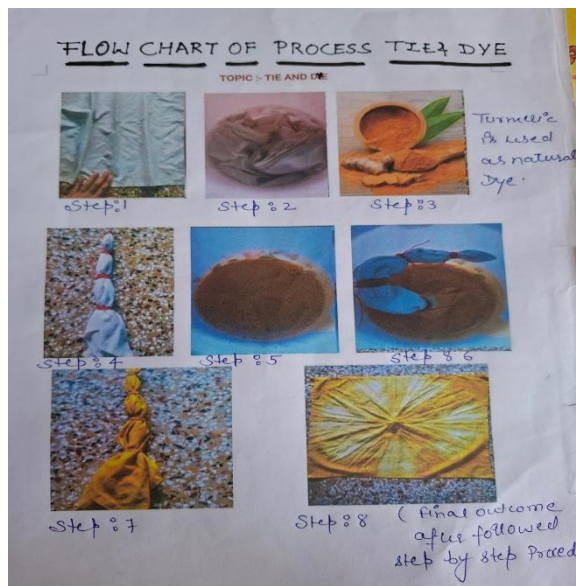
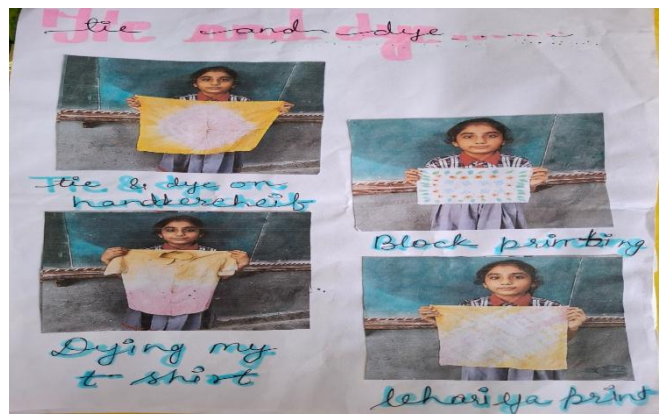
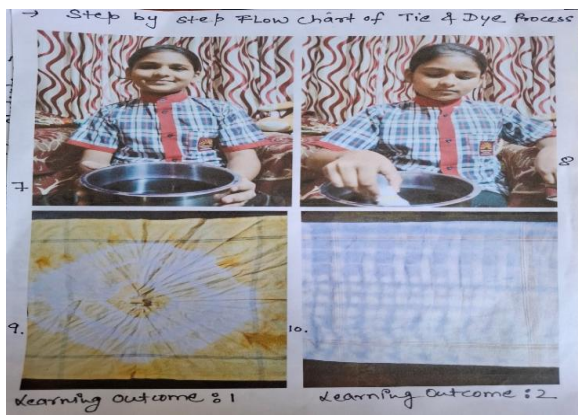
- Dip tied fabric into dye solution.
- Keep immersed for 5–10 minutes for deep color.
- For multi-color effect, dip different sections into different dye bowls.

### **Step 6 & 7: Rinsing and Drying**

- Remove fabric carefully from dye solution.
- Squeeze excess dye and rinse in cold water until clear.
- Dry fabric in open air, preferably in shade.

### **Step 8: Untying and Observation**

- Remove rubber bands/threads.
- Observe the unique colorful patterns created.
- Discuss how folds and tying methods changed the design.



## Integration with Other Subjects

**Art & Craft:** Textile designing and patterns.

**Science:** Use of natural dyes, solubility, chemical reactions.

**Mathematics:** Symmetry, geometry of folds.

**Social Science:** Heritage crafts of India (Bandhani, Leheriya).

**Environmental Education:** Sustainable fashion and fabric recycling.

## Real-Life Applications

- Textile and fashion industry (dupattas, sarees, T-shirts).
- Home décor (cushion covers, curtains, bedsheets).
- Entrepreneurship opportunities (selling handmade products).
- Promoting eco-friendly lifestyle by reusing old fabrics.

Name: Deepti

Designation: (TGT (WE))

Name of KV: PM SHRI KV GC CRPF, Bantalab, Jammu



## WORKING MODEL OF A CATAPULT

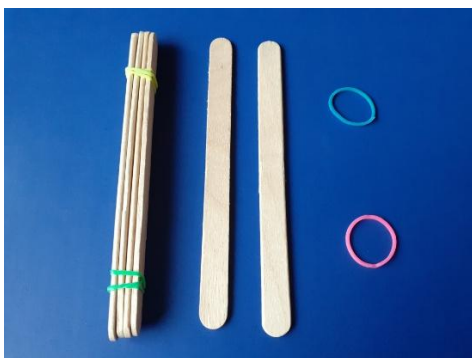
**Class:** VI-C

**Number of Participants:** 36

**Duration:** 50 minutes

### DESCRIPTION

This activity involves making a **working model of a catapult** using easily available materials such as ice-cream sticks, rubber bands, and a plastic spoon. The catapult is a simple mechanical device that throws an object by applying force.



**Fig. materials for making Catapult**



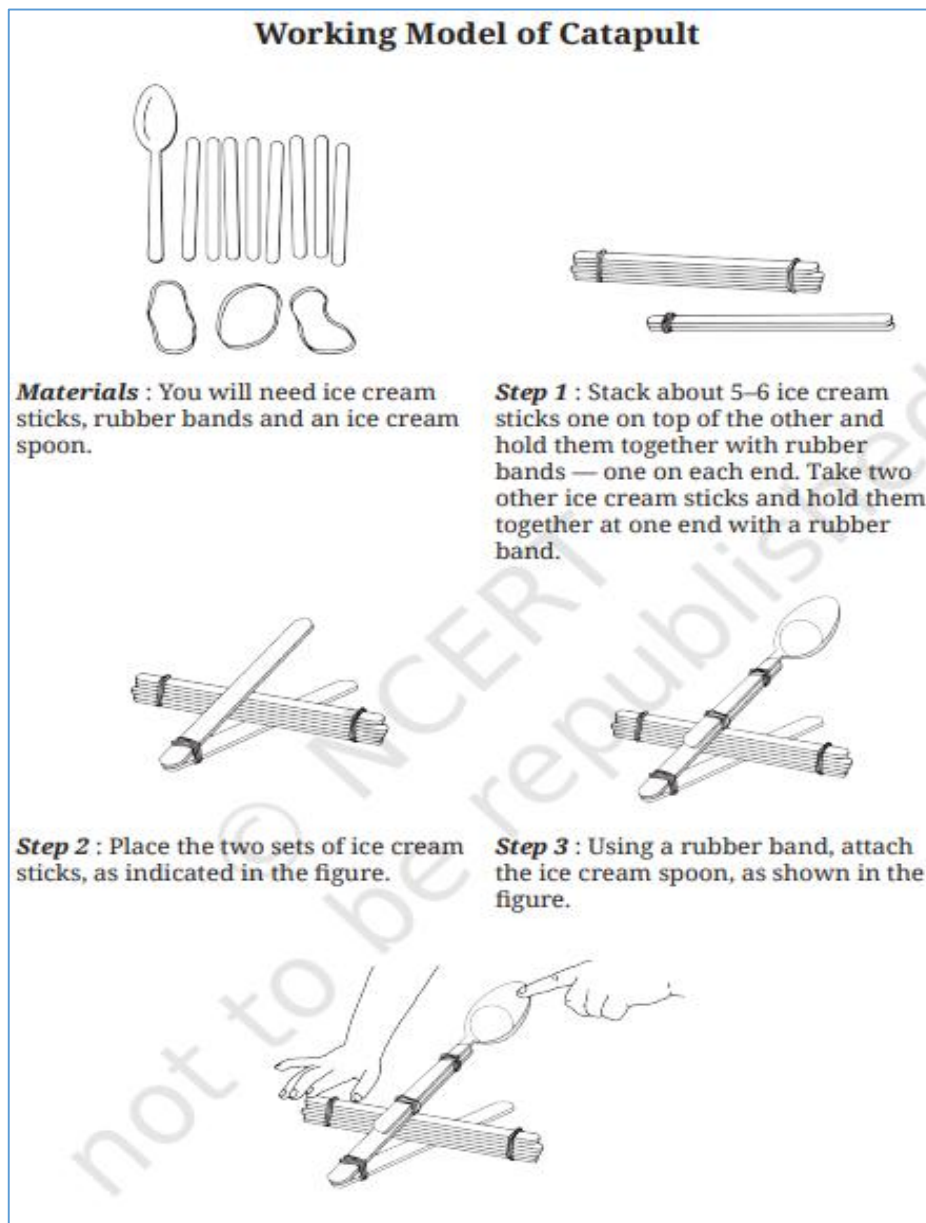
**Fig. model of a Catapult**

Students assemble the model by fixing the spoon between wooden sticks and securing them with rubber bands.

When the spoon is pressed downward, energy gets stored in the rubber bands.

On releasing the spoon, the stored energy changes into motion, causing the object to be launched into the air.

Through this hands-on activity, students learn how basic principles of **force, energy, and motion** work in everyday tools.



**Fig. procedure to make Catapult**

**Important Instructions**

- All materials should be arranged before starting the activity.
- Rubber bands should be tied firmly so that the structure remains stable.
- Only small and lightweight objects should be used for launching.
- The activity should be performed on a flat surface.
- Students must follow the teacher's instructions carefully while making and using the model.

**Safety measures followed**

- The catapult should never be aimed at classmates or teachers.
- Sharp or heavy objects must not be used in the model.

- Rubber bands should be handled carefully to avoid snapping.
- Students should maintain a safe distance while launching objects.
- Teacher supervision should be ensured during the activity.

### **Learning outcomes**

- Students understand the concept of **stored energy and its conversion into motion**.
- Students learn about **simple machines and their practical applications**.
- The activity enhances **creativity, logical thinking, and motor skills**.
- Students develop interest in **experiential and activity-based learning**.
- Teamwork and discipline are encouraged when done in groups.



Name of the teacher: G.P. Tamta

Designation: TGT, WET

Name of KV- O.N.G.C. Dehradun

## MAKING A SWITCH BOARD

**Class:** Middle stage

**Number of the Participants:** 40

**Duration:** 40 minutes

**Description:** Students will learn to make Switch Board assembling and switch board connections.

### Required Materials:

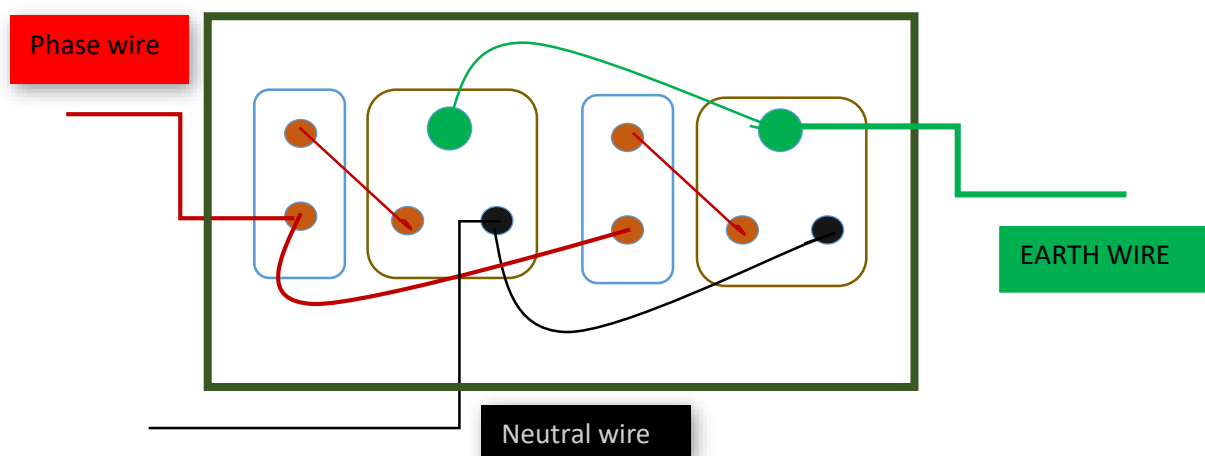
- |                                              |            |
|----------------------------------------------|------------|
| 1. Gang box (02 Switch + 02 sockets) for 6 A | - 01 pc.   |
| 2. Switch 6A                                 | - 02 pcs   |
| 3. Socket 6A                                 | - 02 pcs   |
| 4. Wire 1.5 Sq. mm ( Red / white/Blue)       | - 02 meter |
| 5. Wire 1.5 Sq. mm ( Black )                 | - 02 meter |
| 6. Wire 1.5 Sq. mm ( Black )                 | - 01 meter |

### Required Tools:

1. Plier
2. Tester
3. Screw Driver
4. Cutter

### Procedure:

1. Take gang box and make slots for switch and socket by removing cut marked on PVC Gang box with help of tools pliers and cutter.
2. Fit switches and sockets in slots in gang box.
3. Make electrical connection in gang box as shown below.



4. After making electrical connection in gang box testing to be done under teacher guidance.
5. Thus we prepared a Switch board. Similar way we can make switch board having more large quantity of switches and sockets etc.



### Important instructions:

1. All student is mandatory to be in discipline and careful during activity /project.
2. Student will seat in their pre-defined group.
3. Each student will follow safety and security rules and insure safety for himself as well as other students.
4. Never test any circuit without teacher permission.

### Safety Measures Followed:

1. Do not throw tools towards other student while passing.
2. Do not pick tools at side having sharp edge or tips.

### Learning Outcomes:

Students have been learnt the concept of Switch Board assembling and switch board connections, testing.



Name of the teacher : Laxman Singh

Designation: TGT (WE)

Name of KV: PM SHRI KV NO. 3 Pathankot



## **Kitchen Gardening – Growing and Caring for Plants**

**Class:** Middle stage

**Number of the Participants:** 40

**Duration:** 2–3 Periods

### **Description:**

This assignment is based on a practical activity on kitchen gardening. Students participated in preparing soil, sowing seeds or planting saplings, watering plants, and observing their growth. The activity helped students understand the importance of plants, basic gardening practices, and the role of plants in maintaining a clean and healthy environment. Through hands-on experience, students learned to care for plants responsibly and developed awareness about eco-friendly practices.

### **Important Instructions:**

- Students should follow the instructions given by the teacher throughout the activity.
- Gardening tools should be used carefully and only for the assigned purpose.
- Plants should be watered gently and regularly.
- Students should avoid damaging plants or plucking leaves unnecessarily.
- Hands should be washed properly after completing the activity.

### **Safety Measures Followed:**

- Students were advised to seek guidance from the teacher for the correct method of lifting pots. Heavy pots were lifted with assistance, and students were instructed not to lift heavy pots alone.
- Gloves were used while handling gardening tools and materials to protect the skin and ensure a proper grip.
- Students followed all guidelines and instructions while using gardening tools and materials.
- Careful attention was paid during demonstrations to understand correct gardening techniques.
- Students asked for help whenever they were unsure about the use of any tool or equipment.
- Tools and equipment were cleaned regularly and wiped dry after washing to prevent rusting.
- Gardening tools were stored in an organised manner on shelves or in the store room to avoid accidents and tripping.
- Internet safety was ensured by using digital resources only under teacher supervision. Students did not upload or download any material without permission and did not share personal information online.

### **Learning Outcomes:**

After completing this assignment, students were able to:

- Identify basic tools and materials used in kitchen gardening.
- Demonstrate the correct method of using tools with care.

- Demonstrate the correct method of planting and watering plan.
- Follow safety measures while performing gardening activities.
- Develop a sense of responsibility towards caring for plants.
- Understand the importance of plants for a healthy environment.



Name of the teacher: Manjeet Singh

Designation: TGT (WE)

Name of KV: PM SHRI KV ITBP Dehradun (II- Shift)

## USE OF SENSORS IN ELECTRONICS

**Class:** Middle Stage

**Number of the Participants:** 40

**Duration:** 1hr

**Description:** AUTOMATION: (VOCATIONAL EDUCATION)

**ELECTRONICS SKILLS:** - Sensors play a very important Role in Electronics Applications to provide the output in Digital / Analog Values that can be processed for various applications like Automation, IOT and Robotics. This Assignment will help the students to understand the concept of Sensors in Device Automation.

### Projects undertaken

- 1) Automatic Light Control Circuit using Light LDR Sensor.
- 2) Car Parking System: using Obstacle/ IR Sensor.

### Important instructions:

- Never Short the terminals of Battery.
- Consult the teacher wherever required or ask for any doubt.
- Always power on the circuit after getting it checked from your teacher.
- Never let the battery to be connected in the Circuit for long duration of time.

### Safety Measures Followed:

- Always do the experiments/ activities under the observation of your teacher.
- Always use insulated shoes while performing the practical.
- Keep a distance from the nearby Electrical Device.

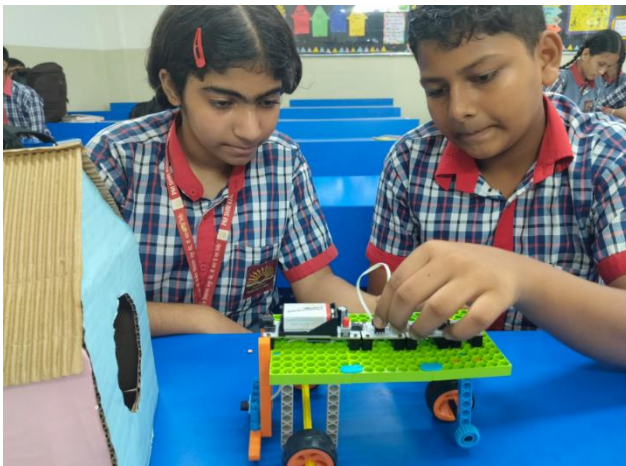
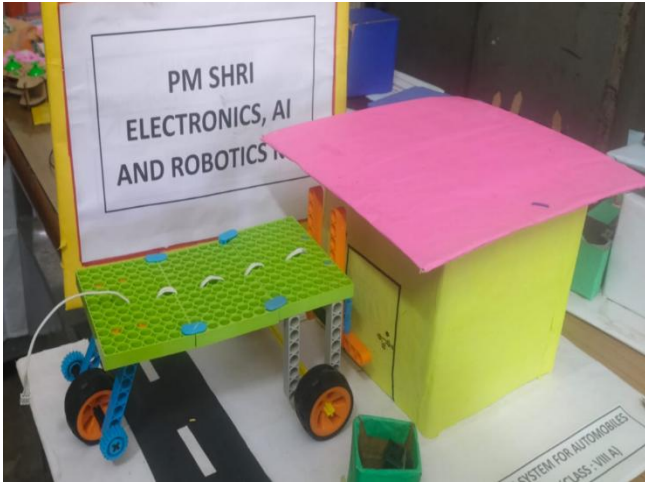
### Learning Outcomes

1. Students to understand the use of Sensors in Electronics Project Design.
2. Students will to identify Device Automation with the help of Sensors.
3. Students to understand the working of Sensors with Project based learning.
4. With the help of Two Projects: - Students would understand the function of Light Sensor and IR/Obstacle Sensor in Electronics.

**Learning outcome:** The students will able to

- Describe working of Light Sensor in Automatic Light Control Circuit. This is also a type of Energy Conservation Circuit.
- Illustrate working of Obstacle/IR Sensor.
- Control the range of IR Sensor using Sensor Base.





Name of the teacher: Meenu  
 Designation: TGT(WE)  
 Name of KV:M SHRI KV GC CRPF Pinjore



## **FIRE SAFETY**

**Class:** Secondary stage

**Number of the Participants:** 25

**Duration:** 40 Minutes

**Description:** To ensure the safety and wellbeing of students, the school organised fire safety activity to create awareness, preparedness and confidence among students and staff.

### **Hands -on Fire Extinguisher Demonstration:**

- Demonstrated the use of fire extinguishers using the PASS technique:
  - Pull pin
  - Aim at base
  - Squeeze handle
  - Sweep side to side
- Students observed and understood basic firefighting steps.
- Interaction with Local Fire Services:
- Fire Department persons were invited to demonstrate about Fire extinguishers and explain Fire prevention methods.

### **Types of Fire Extinguishers That Can Be Used in Schools:**

For a safe school environment, the following fire extinguishers are recommended based on common fire risks in schools:

#### **1. ABC Dry Powder Fire Extinguisher**

Fire Classes Covered: A (paper, wood), B (oil, paint), C (gas)

Safe for: Electrical fires

Where to Place: Corridors, classrooms, staircases

Best all-purpose extinguisher for schools

#### **2. CO<sub>2</sub> (Carbon Dioxide) Fire Extinguisher**

Fire Classes: B (flammable liquids), Electrical fires

Where to Place: Computer labs, science labs, offices

Leaves no residue, safe for electronics

- Important instructions:
- Stay calm and do not panic.
- Stop all activities immediately on hearing the alarm
- Walk quickly in a single line, do not run.
- Follow the teacher's instructions strictly.

- Use the nearest safe exit.
- Do not push, shout and create noise.
- Cover nose and mouth with a handkerchief or cloth if needed.

#### **Safety Measures Followed:**

- Activities were conducted under the strict supervision of trained teachers and staff.
- Students were briefed in advance about safety rules and emergency procedures.
- Running, pushing and shouting were strictly prohibited.
- Students assembled only at the designated assembly area.

#### **Learning Outcomes: Students will able to**

- Use fire extinguishers during emergency



Name of the teacher: Monika Khanna

Designation: TGT(WE)

Name of KV: PM SHRI KV Chandimandir Cantt

## ELECTRIC GREETING CARD – Creative Circuit-Based Craft Activity

**Class:** Middle Stage

**Number of the Participants:** 52 Students

**Duration:** 40-45 minutes

### Description:

Students of Class 6 designed an Electric Greeting Card by integrating basic electrical circuits with creative artwork. The activity helped students understand how LEDs, cells, switches, and conductive paths work together. They created greeting cards for occasions like Festivals, Birthdays, New Year, etc., using glowing LEDs, paper switches.

### Important Instructions:

1. Handle LEDs and button cells carefully.
2. Check polarity of LED before fixing.
3. Do not use damaged or leaking batteries.
4. Ensure conductive tape sticks or aluminium foil paper properly.
5. Keep hands dry while working.
6. Remove battery/cell when not in use.

### Safety Measures Followed:

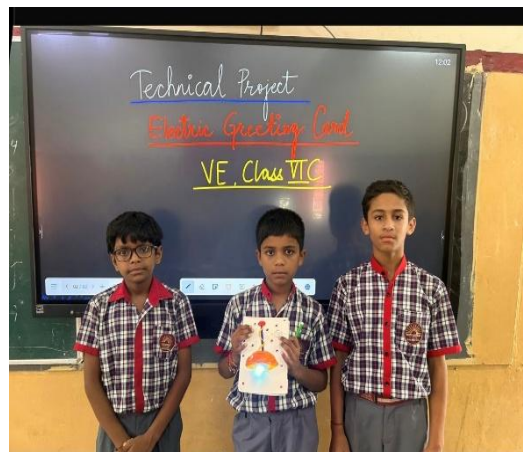
- Students maintained clean workspace.
- Scissors and tools used under supervision.
- Only 3V button cells used.
- Proper disposal of used batteries explained.

### Learning Outcomes: Students will be able to

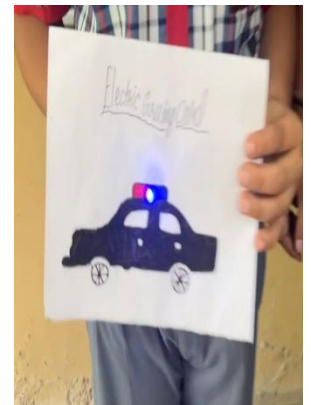
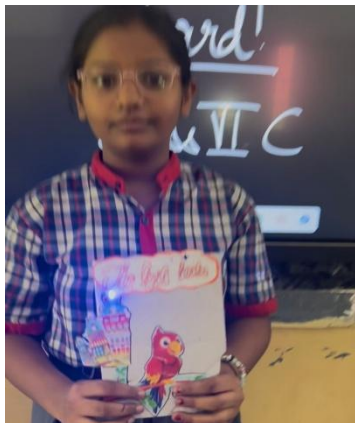
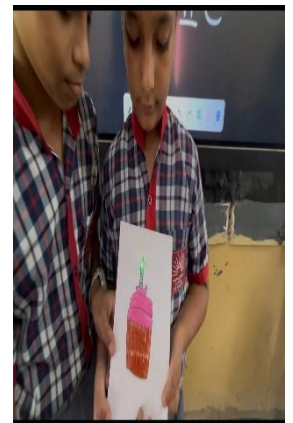
- Identify basic circuit components.
- Understand closed vs open circuit.
- Troubleshoot circuit issues.

### Innovative Ideas Used by Students:

- LED stars for night-sky theme.
- Heart-shaped glowing LED card.
- Festival cards with multiple LEDs.
- Press to Glow' paper switch etc







Name of the Teacher: Neha Verma  
 Designation: TGT (WE)  
 Name of KV: PM SHRI KV, Janakpuri (first shift)



## Make your animation and games using scratch

**Class:** Middle stage

**Number of the Participants:** 40

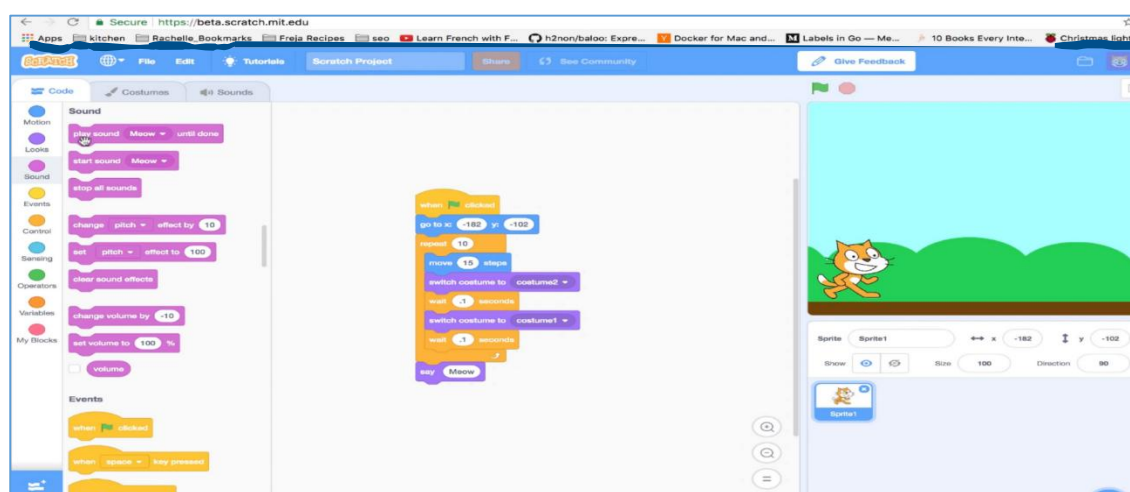
**Duration:** 5 periods

### Description:

Students can create their own animations and games using 'Scratch'. Scratch is easy to use. It is called a 'visual programming language' since you can move around 'blocks' instead of writing complicated programmes in languages that take time to learn.

**<https://scratch.mit.edu/>** - This is the link of the scratch website.

1. The first step is to create account on the scratch.
2. You will have to login to the Scratch website to create an account.
3. Open your Scratch account using an email address. You can use the email address of your teacher or a family member.
4. To start creating, click on the 'Create' button.



### Important instructions:

Students create account on the scratch in the presence of teacher or parents to ensure safety. For this Scratch send verification code on parent's e mail id and When parents will verify then only students get access of the scratch.

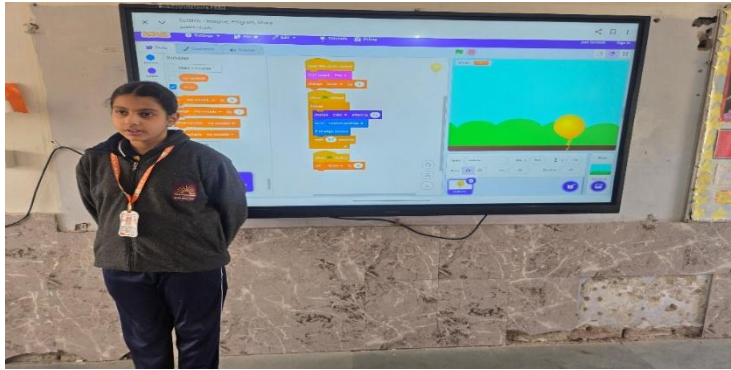
### Safety Measures

- Make a list of 'to do' and 'not to do' while using internet. Make sure you follow this list while working on the scratch.
- Create strong password to login in the scratch. Strong password has minimum 8 characters including Small alphabet , Capital alphabet , numbers and special symbols like @, #, \$, %.

- Don't share your password to anyone.
- If in doubt, ask your teacher.
- limit your screen time as advised by your teacher and/or family members.

**Learning Outcomes:** The students will be able to

- Create a simple Scratch project with block programming
- Design games and animations using Scratch



Name of the teacher: Nisha

Designation: TGT(WE)

Name of KV: PM SHRI KV Sunjuwan

## CARPENTRY WORKSHOP

**Class:** Middle stage and secondary sage

**Number of the Participants:** 38

**Duration:** 4 Hrs

### Description:

A carpentry workshop for Class 6 students is an engaging and hands-on learning activity designed to introduce children to basic woodworking skills in a safe and enjoyable way. The workshop helps students understand how simple wooden items are made while encouraging creativity, problem-solving, and teamwork. During the workshop, students are first introduced to basic carpentry tools such as a measuring tape, hammer, hand saw, nails, and sandpaper.

### Important instructions:

- Students are instructed not to use tools and accessories alone.
- They are instructed to use all the things in the supervision of instructor.
- They are instructed not to use sharp tools.

### Safety Measures Followed:

- The instructor explains the purpose of each tool and demonstrates how to use them safely.
- Special emphasis is placed on safety rules, including proper handling of tools and wearing protective gear.

### Learning Outcomes:

- The carpentry workshop also helps students develop fine motor skills, hand–eye coordination, and confidence in working with their hands.
- Overall, it is a fun and educational experience that allows Class 6 students to explore practical skills, understand the value of craftsmanship, and appreciate the effort involved in making every day wooden objects.





Name of the teacher: Sonia Oberai

Designation: TGT(WE)

Name of KV: PM SHRI KV Leh



## How to Make a Circuit Using IC-7400 (NAND Gate Circuit) on Tinkercad

**Class:** Secondary stage

**Number of the Participants:** 40

**Duration:** 40 Minutes

### Description:

This assignment focuses on understanding and implementing a basic digital logic circuit using IC-7400 (Quad 2-Input NAND Gate) on the Tinkercad online simulation platform. Students learn the concept of NAND gates, study the pin configuration of IC-7400, and design a simple NAND gate circuit using input switches and output LEDs.

Through hands-on simulation, students verify the truth table of a NAND gate, observe logical operations, and understand the practical application of digital electronics. Tinkercad allows safe experimentation without physical components, helping students visualize circuit behavior clearly.

### Important instructions:

- Open **www.tinkercad.com** and log in using a valid account.
- Select **Circuits** → **Create New Circuit**.

### Add the following components:

- IC 7400 (NAND Gate)
- Breadboard
- Power supply (3V)
- Push buttons or slide switches (for inputs)
- LEDs
- Resistors (220Ω or 330Ω)
- Connecting wires

1. Connect **Pin 14 to +5V** and **Pin 7 to GND** of the IC.
2. Choose any one NAND gate (e.g., Pins 1, 2 as inputs and Pin 3 as output).
3. Apply different input combinations (00, 01, 10, 11).
4. Observe the LED output and verify the NAND gate truth table.

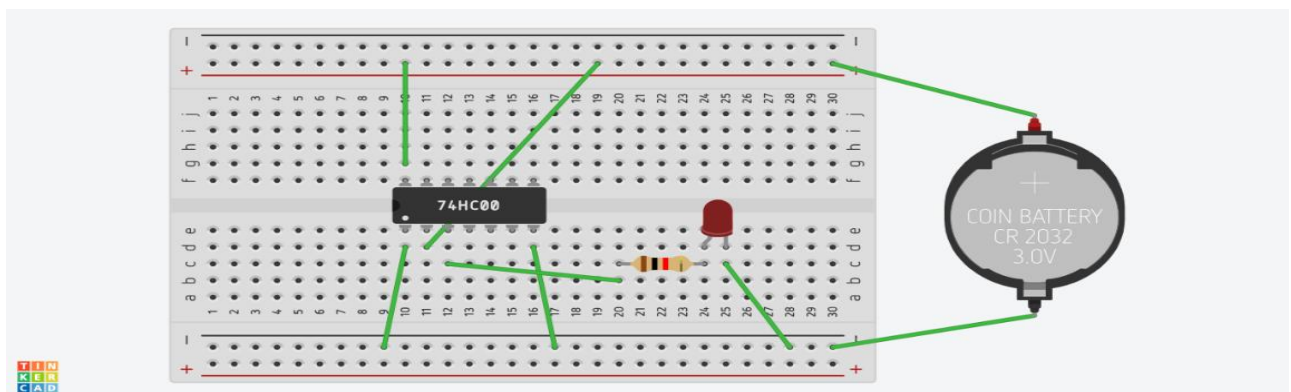
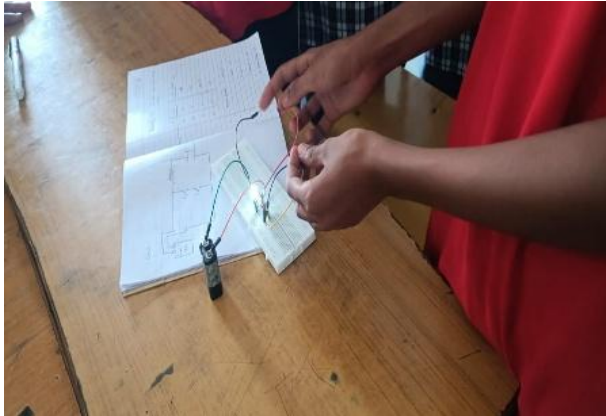
### Safety Measures Followed

- Correct voltage (3V) used for IC-7400.
- Proper grounding of the circuit ensured.

- Resistors used with LEDs to prevent damage.
- No loose connections made on the breadboard.
- Simulation performed on Tinkercad to avoid electrical hazards.

**Learning Outcomes:** students will be able to:

- Design and simulate a digital logic circuit on Tinkercad.
- Identify the pin configuration of IC-7400.
- Verify the truth table of NAND gate practically.



Name of the teacher: Sunil Pandita  
 Designation: TGT (WE)  
 Name of KV: PM SHRI KV No 2 Jammu Cantt

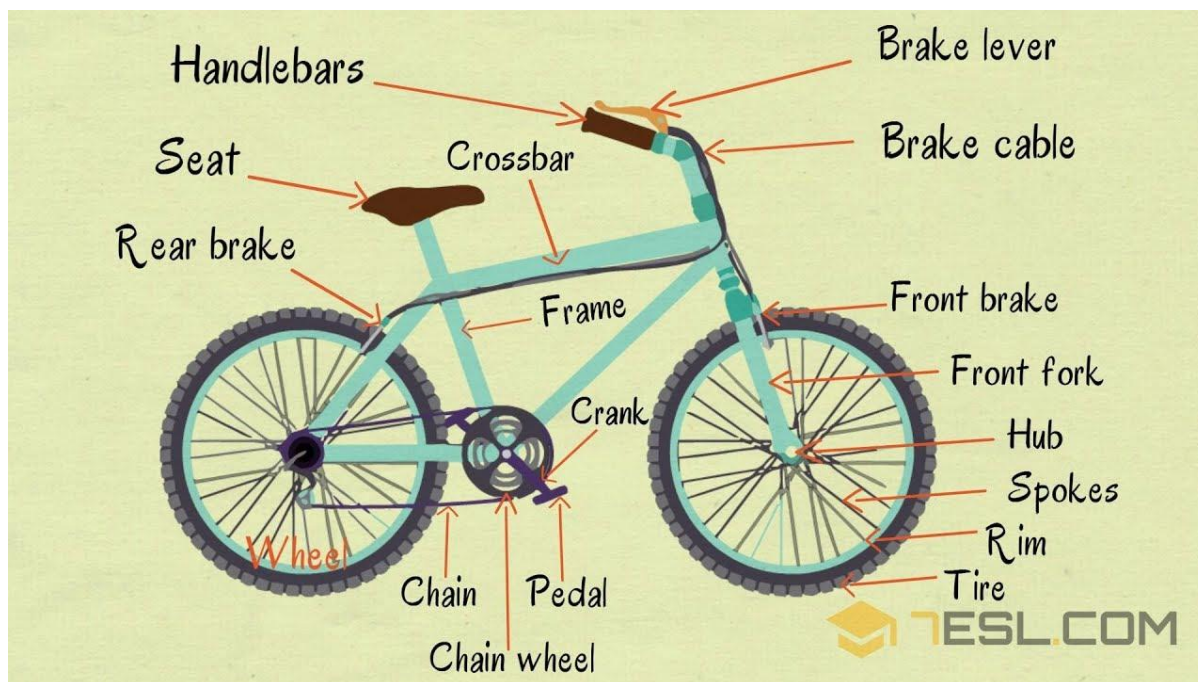
## Identification of parts of a bicycle

**Class:** Middle stage and secondary stage

**Number of the Participants:** 42

**Duration:** 30 Minutes

**Description:** Identifying the parts of a bicycle and learn about the simple machines used in a bicycle.



The simple machines used in a cycle are:

**1 Pulley:** The chain transfers power from the front gears (chain-wheel) to the rear gears, acting like a pulley system to change speed.

**2. Lever:**

**Pedals:** Your feet push down on pedals, acting as levers to turn the crank, multiplying force.

**Brakes:** Squeezing the brake levers applies force to the brake pads, slowing the wheel.

**Handlebars:** Used for steering, they are levers to turn the front wheel.

**3. Wheel and axle:**

**Wheels:** Reduce friction and allow for smooth rolling over surfaces.

**Axles:** Connect the wheels to the frame, allowing them to rotate freely.

**Important instructions:**

- Maintain discipline during the activity.
- Activity would be performed by all students so maintain proper distance.
- Observe the parts of bicycle when teacher explains.

**Safety Measures Followed:**

- Handle the bicycle gently and carefully.



- Do not sit on the bicycle. No riding during learning.
- Do not touch any part of the bicycle unless teacher allows.
- Do not rotate pedals or wheels.

**Learning Outcomes:** Students will be able to

- Identify the main parts of bicycle.
- Correlate with other subject like physics, Mathematics
- Explain how bicycle parts work together.
- Identify the problems that could occur with these part with time.



Name of the teacher: Swati

Designation: TGT (WE)

Name of KV: PM SHRI KV Mohali



## **School Kitchen Garden – Soil Prep, Sowing, and Composting**

**Class:** Middle stage and secondary stage

**Number of the Participants:** 44

**Duration:** 08 Periods

### **Description:**

A School kitchen Garden is a small plot / a little patch of land inside the school premises where students grow fresh vegetables(Tomatoes, Spinach, Brinjal, Cucumber, Chillies etc.), Fruits(Guava, Banana etc) and Herbs(Mint, Basil, Rosemary etc.) for daily use, providing Fresh & healthy ,organic nutritious food without harmful chemicals, by using kitchen waste(like fruit and vegetables peels) to make compost for the soil, teaching responsibility(Helps students to understand where food comes from and appreciate healthy eating), and connecting students with nature(It's a calm place to relax ...means stress relief; Gardening is a therapeutic activity that reduces anxiety and improves mood).

### **Important Instructions:**

- For a successful school kitchen garden, start small with a clear plan, involve students in all steps) Planning, Planting, Care, Harvest), ensure a sunny spot with good soil and water, use organic methods, provide age-appropriate tools, and pick easy-to-grow, nutritious crops, while maintaining safety with proper supervision and suitable clothing.
- Key steps involve building support, designing accessible beds, choosing suitable plants and seeds, teaching organic practices like composting and regular maintenance.
- Soil testing is very important, so that we can Prepare garden soil for planting plants or sowing seed as per the requirements of soil & plant/seed (Soil clearance, adding manure).
- Make vermicomposting using biodegradable materials.

### **Safety Measures Followed:**

- School kitchen garden safety involves strict hygiene (Handwashing, clean tools/water), physical safety(tools handling, supervision, no running etc.),chemical control (no pesticides/herbicides, secure storage), and plant awareness (identify safe / toxic plants, proper washing before eating),all under teacher's guidance to prevent contamination and injury.
- Use safety gloves as per the working condition or requirements.
- Students must wear closed-toe shoes(no sandals).
- Stay on paths: Encourage walking on designated paths and be aware of tripping hazards.
- Use proper compost; don't use animal waste or cafeteria waste with animal products.
- Have parental allergy information and a first-aid kit accessible.

**Learning Outcomes:** students will be able to

1-Understand benefits of kitchen gardening.

2- Identify gardening tools and their uses.

3- sowing seeds, preparing beds etc.









Name of the teacher: Virender Singh Verma

Designation: TGT (WET)

Name of KV: PM Shri K.V. No.2, Roorkee