केन्द्रीय विद्यालय संगठन

KENDRIYA VIDYALAYA SANGATHAN

आंचलिक शिक्षा एवं प्रशिक्षण संस्थान मैसूरु

ZONAL INSTITUTE OF EDUCATION AND TRAINING, MYSURU

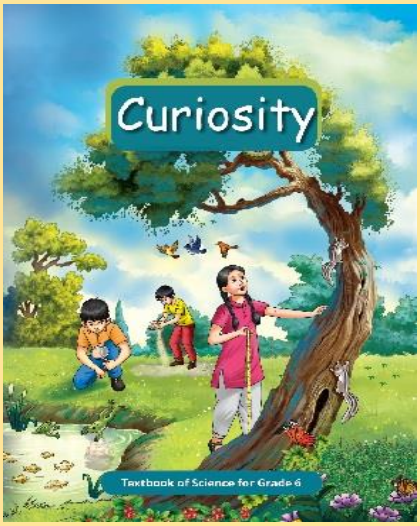
WORKSHOP MANUAL

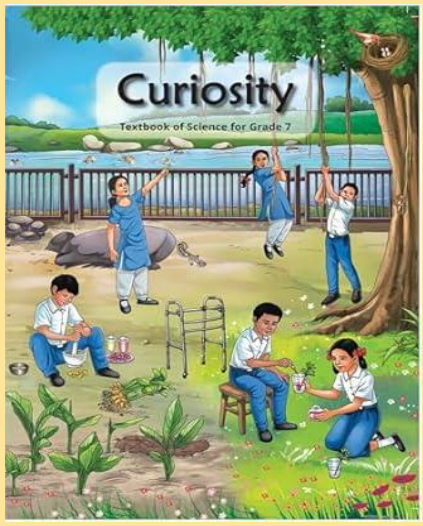
NEW TEXTBOOK ORIENTATION

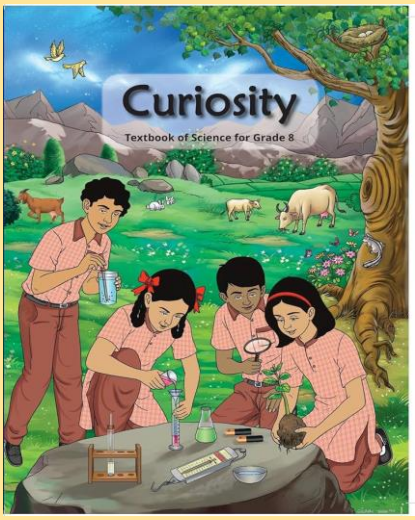
SCIENCE

FOR CLASSES VI TO VIII

28TH JULY TO 30TH JULY







from NCERT TEXT COVER PAGE

"The highest education is that which does not merely give us information but makes our life in harmony with all existence."

Rabindranath Tagore

MESSAGE FROM THE DIRECTOR

It gives me immense pleasure to welcome all the dedicated educators participating in the 3-Day New Textbook Orientation Workshop for Science (Classes VI to VIII).

With the implementation of the National Education Policy (NEP) 2020 and the National Curriculum Framework (NCF) 2023, we are witnessing a transformative shift in the way Science is taught and experienced in our classrooms. The new textbooks are designed to nurture scientific curiosity, promote hands-on and experiential learning, and develop core competencies among learners.

This workshop aims to equip you with a deep understanding of the revised curriculum, innovative pedagogical approaches, and effective assessment practices. It is an opportunity to explore not only the content but also the spirit and intent of the new framework—ensuring that every child engages meaningfully with science as a way of thinking and problem-solving.

I encourage you to make the most of these three days—collaborate, question, explore, and reflect. Together, let us strive to make Science education more joyful, inclusive, and impactful.

Wishing you an enriching and inspiring workshop experience.

Warm regards,

MENAXI JAIN

Director, ZIET Mysuru

RESOURCE TEAM

ASSOCIATE COURSE DIRECTOR-

MRS S DEEPASHRI,

VICE PRINCIPAL,

KV RAICHUR, BENGALURU REGION

CO-ORDINATOR-

MR DINESH KUMAR,

TA (PHYSICS), ZIET MYSURU

RESOURCE PERSONS

MS SANDHYA S,

TGT SCIENCE,

PM SHRI KV SAP PEROORKADA, ERNAKULAM REGION

MS S MANJULA,

TGT SCIENCE,

KV GACHIBOWLI, HYDERABAD REGION

GROUP PHOTO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ZONAL INSTITUTE OF EDUCATION AND TRAINING
K.V.S.
MYSORE

CONTENT

REPORTS

Day 1: Orientation Workshop for TGT Science Master Trainers (28/07/2025)

Venue: ZIET Mysore
Participants: TGT Science teachers from KVS Regions – Chennai, Bangalore, Ernakulam, Hyderabad

The first day of the orientation workshop for the new science textbooks began with an invocation and a **welcome address by Shri Dinesh Kumar**, Training Associate (Physics), ZIET Mysore. This was followed by a **self-introduction session** where participants from four KVS regions connected and exchanged greetings.

Session 1: Structure and Design of New Science Textbooks

Resource Person: Mrs. S. Deepashri, I/C Principal, KV Raichur
The session provided a comprehensive overview of the design and structure of the new science textbooks (Classes VI–VIII), contextualized within the **NEP 2020** and **NCF (SE) 2023**.
Key highlights:

- Shift to **competency-based** and **inquiry-driven learning**
- Emphasis on **design aesthetics**, **embedded activities**, **curated resources** (like QR codes), and **thematic focus on curiosity**
- Integration of **interdisciplinary and technological tools** for deeper learning
  The session ended with an enthusiastic discussion among participants about the distinctive features of each textbook.

Session 2: Pedagogical Shifts – From Rote to Experiential Learning

Resource Person: Smt. S. Manjula, TGT Science, PM SHRI KV Gachibowli
This presentation emphasized the need to transition from rote memorization to **experiential and meaningful learning**.
Key takeaways:

- Rote learning still has limited utility for memorizing facts, but fails in fostering critical thinking.
- **Experiential learning** builds 21st-century skills like collaboration, real-world problem-solving, and innovation.
- **Inspirational stories** like those of Dr. A.P.J. Abdul Kalam, Arvind Gupta, and student-led science projects highlighted real-life benefits of this approach.
  The session stressed that **promoting scientific temperament** is vital and must be nurtured through student-centered, activity-rich classrooms.

Session 3: Exploring Concepts and Assessments in Class 6 Textbook "Curiosity"

Resource Person: Sandhya S., TGT Science, PM SHRI KV SAP Peroorkada
This session focused on the **pedagogical design and assessment strategies** of the new Class 6 textbook.

- Activities and concepts were discussed in alignment with learning outcomes.
- Participants explored **different assessment types**, with emphasis on **formative evaluation**.
- Videos showcasing real classroom activities were shared, followed by a discussion on the **practical challenges faced by teachers**.
- An engaging dialogue allowed participants to exchange solutions and reflect on best practices.

Session 4: Inquiry-Based Learning in Action

Resource Person: Smt. S. Manjula
This final session of the day delved deeper into **inquiry-based learning** using specific chapters from the Class 6 textbook.
Participants engaged with examples and reflected on strategies to implement inquiry in the classroom effectively.

Day 2: Orientation Workshop for TGT Science Master Trainers (29/07/2025)

Venue: ZIET Mysore
Participants: TGT Science teachers from KVS Regions – Chennai, Bangalore, Ernakulam, Hyderabad

The session on *"Understanding the Role of Art, Environment, Values and Traditional Knowledge System (TKS/IKS)"* was conducted by **Mrs. Sandhya**, the resource person, and was marked by high levels of participant engagement and enthusiasm. The session was enriched with **relevant videos, practical examples, and interactive discussions** that enabled the participants to understand the integration of these elements in science education effectively.

ACD Ms S.Deepashri made valuable contributions to the discussion, offering insights into how **art, values, and environment** can be woven into pedagogical practices. **Shri Dinesh Kumar, Training Associate, ZIET Mysore**, further deepened the learning by highlighting **Indian Knowledge Systems (IKS) and Traditional Knowledge Systems (TKS)**. He elaborated on how these are reflected in the **new textbooks of Classes 6, 7, and 8**, drawing specific examples from the content.

Group Activity: Facilitating Effective Classroom Practices

Post the tea break, a **group activity session** was conducted on *Facilitating Effective Classroom Practices through Demonstration Lessons*. Eight participants were assigned to present demonstration lessons for different classes. The remaining participants were divided into **four teams** to observe and evaluate these lessons. This activity promoted peer learning and helped in understanding diverse teaching strategies.

Post-Lunch Session: Promoting Critical Thinking & Societal Connections (Class 8 Science)

This session, led by **Mrs. Sandhya**, focused on the Class 8 Science curriculum. Each team (consisting of 2–4 teachers) was allotted a chapter from the textbook. They were tasked to identify and present the following:

- **Chapter Gist**
- **One Concept-based Activity**
- **Integrated Values**
- **Elements of Indian Knowledge System (IKS)**
- **Opportunities for Critical Thinking**
- **Societal Connections**

The session saw enthusiastic participation, with all teams presenting innovative ideas and classroom activities, showcasing a wide range of pedagogical approaches aligned with **National Education Policy (NEP) 2020** goals.

Final Session: ICT-Enabled Assessment & Digital Integration

The concluding session, conducted by **Shri Dinesh, TA, ZIET Mysore**, focused on the **integration of ICT tools in classroom assessment and teaching**. He introduced participants to new features in the **revised textbooks**, such as:

- **QR Codes for easy access to e-resources**
- **Use of DIKSHA Portal**
- **Incorporating e-content for learner engagement and assessment**

Participants found this session **highly beneficial**, particularly in understanding the scope of **digital integration in assessment**, and how it aligns with competency-based learning frameworks.

Conclusion

The full-day session was **rich in content and pedagogical strategies**, offering deep insights into the roles of **art, environment, values, and traditional knowledge** in the teaching-learning process. It successfully promoted the integration of **multidisciplinary approaches** and emphasized **critical thinking, societal relevance, and digital readiness** among educators. The session concluded on a reflective and motivated note, inspiring teachers to implement these ideas meaningfully in their classrooms.

Day 3: Orientation Workshop for TGT Science Master Trainers (30/07/2025)

Venue: ZIET Mysore
Participants: TGT Science teachers from KVS Regions – Chennai, Bangalore, Ernakulam, Hyderabad

- **Morning Assembly:**
  - Conducted by **Group 3**.
  - **Group 2** presented the report of the previous day's activities.
- **Session 1: Meditation and Mindfulness**
  - Led by **Mr. Dinesh Kumar**, experienced educator and trainer.
  - Focused on **meditation techniques**, **self-introspection**, **self-love**, and **mindfulness**.
  - Emphasized the role of mental clarity in:
    - Enhancing classroom management.
    - Improving student engagement.
  - Provided practical ways to integrate mindfulness into teaching.
- **Session 2: Evaluation and Assessment**
  - Conducted by **Ms. Manjula**.
  - Covered the shift from **rote-based** to **competency-based assessment**.
  - Discussed **Continuous and Comprehensive Evaluation (CCE)** methods.
  - Aligned with **NEP 2020** and **NCF 2023**.
  - Highlighted the need for holistic and learner-centric evaluation practices.
- **Session 3: Demo Lessons by Participants**
  - Participating teachers presented demo lessons across various subjects.
  - Lessons included:
    - Clearly defined **learning objectives**.
    - Use of **innovative pedagogy**.
    - Effective **teaching aids** and engaging strategies.
- **Post-Lunch Session: Integration of Technology in Teaching**
  - Led again by **Mr. Dinesh Kumar**.

- Introduction to **QR codes** in the **new NCERT textbooks**.
- Demonstration on navigating and using the **NCERT website** effectively.
- Introduction to **Plickers**:
  - A paperless, real-time **assessment tool**.
  - Suitable for formative assessments in the classroom.

- **Overall Takeaways:**
  - Importance of **mindful teaching**.
  - Adoption of **modern, student-friendly assessment methods**.
  - Integration of **technology for enhanced learning and evaluation**.

DAY-1 (28.07.2025)

SESSION 1

STRUCTURE AND DESIGN OF NEW SCIENCE TEXTBOOKS (CLASS 6-8) IN CONTEXT WITH NEP-2020 AND NCF-2023

-BY MRS S DEEPASHRI (VICE-PRINCIPAL), KV RAICHUR

Session Overview:

The session offered an in-depth exploration of how the **new Science curriculum and textbooks** are aligned with the **National Curriculum Framework for School Education (NCF-SE) 2023** and the **National Education Policy (NEP) 2020**. It addressed the evolving **needs of science education** and the **curricular and pedagogical shifts** envisioned for middle school learners.

Key Themes Discussed:

1. Contextual Background:

- **NCF (SE) 2003 vs. NCF (SE) 2023:**
  The session began with a comparative view of the **2003 framework** and the **latest NCF-SE 2023**, showing how education has shifted from content-heavy to learner-centered, experiential learning.

- **Current Challenges in Science Education:**
    - Lack of curiosity and critical thinking in classrooms
    - Overemphasis on memorization
    - Limited use of real-life context and interlinking of concepts
    - Underuse of technology and creative resources

2. Vision of NEP 2020 and NCF (SE) 2023:

- Promotes **conceptual understanding over rote learning**
- Emphasizes **21st-century skills**: critical thinking, problem-solving, creativity, and collaboration
- Advocates for **competency-based and inquiry-driven learning**
- Encourages **interdisciplinary connections** and **integration of digital tools**

3. Curricular Structure and Pedagogical Shift:

- Science curriculum restructured around **core concepts** and **grade-level competencies**
- Focus on **exploration, questioning, experimentation, and discovery**
- Textbooks redesigned to act as **learning companions**, not information-heavy manuals

Features of the New Science Textbooks (VI–VIII):

As per NCF recommendations, the textbooks incorporate the following essential elements:

- **Design Aesthetics and Consistency:**
  Visually engaging, structured layouts for better learner engagement
- **Clarity of Learning Standards:**
  Clearly stated learning outcomes aligned with each chapter
- **Curricular-Specific Design Elements:**
  Including thematic flow, links to real-life examples, and level-appropriate content progression
- **Embedded Activities and Exercises:**
  Encourage hands-on learning, observation, and analysis through experiments, models, and inquiry tasks
- **Curated Additional Resources (QR Codes):**
  Enable students to explore extended learning materials, videos, and simulations without being overwhelmed

- **Thematic Focus: "Curiosity":**
  Textbooks are built around the theme of **exploration, questioning, and discovery**, aligning with the nature of scientific inquiry

Interactive Segment:

- The session concluded with a **lively and enthusiastic discussion** among participants.
- Teachers explored and reflected on the **distinctive features** of each of the **Class VI, VII, and VIII textbooks**, noting:
  - Context-based content
  - Local examples and relatable narratives
  - Increased opportunity for inquiry and application
  - Seamless integration of technology

Participants shared their initial impressions and expressed optimism about the **potential of the new textbooks** to make science learning more engaging, inclusive, and meaningful.

Conclusion:

The session successfully highlighted how the **new generation of science textbooks** aligns with the larger vision of transforming education in India. Teachers left with a **deeper understanding of the design philosophy**, **curricular intent**, and **pedagogical expectations** embedded in the books—equipping them to implement these resources effectively in their classrooms.

SESSION 2

PEDAGOGICAL SHIFTS FROM ROTE TO EXPERIENTIAL LEARNING

-BY SMT S MANJULA, TGT SCIENCE, KV GOCHIBOWLI

Overview:

The session focused on a major educational transition from **rote memorization** to **experiential learning**, aligning with the goals of NEP 2020 and 21st-century education. It emphasized the importance of **conceptual clarity**, **real-world application**, and development of **critical skills** like problem-solving, creativity, collaboration, and adaptability.

Key Learnings from the Session:

1. Rote Memorization – Limited but Still Relevant

- **Definition:** Repetition-based learning without deep understanding.
- **Drawbacks:**
    - Shallow conceptual grasp
    - Weak analytical and problem-solving abilities
    - Low retention and engagement
    - Lack of creativity, inquiry, and scientific temperament

- Minimal real-world relevance

- **Situational Usefulness:**
  - Memorizing **constants**, **units**, **scientific terms**, **laws**, **taxonomy**, and **safety procedures**
  - Useful in building foundational recall for more complex applications

2. Experiential Learning – The Transformative Approach

- **Definition:** Learning by doing – involving hands-on experiences, reflection, and application.
- **Advantages:**
  - Connects theory with real-life practice
  - Enhances critical thinking and decision-making
  - Encourages teamwork, communication, and creativity
  - Boosts motivation and long-term learning
  - Builds essential life skills like adaptability and resilience
  - Promotes environmental and social awareness
  - Prepares students for real-world careers and civic responsibility
- **Examples Shared:**
  - Science experiments in class
  - Field visits to industries, science parks, or nature reserves
  - Community projects (e.g., water conservation, waste management)
  - School garden or sustainability projects
  - STEM fairs and model-building activities

Real-Life Inspirational Stories:

- **Dr. A.P.J. Abdul Kalam:** Gained expertise in rocket science through hands-on learning at ISRO.
- **Elon Musk:** Applied self-directed, project-based learning to build and test rockets.
- **Rural Karnataka Students:** Used chemistry skills in a water testing project to serve the local community.
- **Arvind Gupta:** Popularized science using everyday waste materials through low-cost models.

Promoting Scientific Temperament:

- Encouraged by initiatives like **NCSC (National Children's Science Congress)** and **RSBVP**, which provide platforms for students to engage in meaningful, inquiry-driven STEM projects.

Conclusion:

The session concluded with a strong realization that **experiential learning is no longer optional—it is essential**.
It fosters the development of **innovative, resilient, and socially responsible learners** who are better equipped to navigate the challenges of the modern world. Teachers were encouraged to redesign their classroom experiences to nurture **curiosity**, **discovery**, and **purposeful learning**.

SESSION 3

CLASS-6 NEP 2020: CONCEPTS, ACTIVITIES AND ASSESSMENT

-BY SMT SANDHYA S, TGT SCIENCE, PM SHRI KV SAP PEROORKADA

1. **Key Concepts and Activities:**
    - The session began with an overview of the core **concepts** and **learning themes** from the Class 6 textbook *"Curiosity"*.
    - Emphasis was placed on the **embedded classroom activities** that aim to foster inquiry, curiosity, and hands-on exploration.
2. **Significance of Classroom Activities:**
    - A detailed discussion highlighted the **importance of activity-based learning** in helping students develop conceptual understanding, scientific skills, and engagement.
    - Teachers reflected on how well-planned activities can make science more relatable and meaningful for young learners.
3. **Assessment as a Tool for Measuring Learning Outcomes:**
    - The role of **assessment** in tracking and analyzing student learning was discussed.

- Participants explored how **formative and summative assessments** are embedded in the textbook to align with competency-based education.
- The session covered a variety of assessment formats such as observation checklists, reflection questions, peer evaluation, and performance tasks.

4. **Video Demonstrations:**
    - In the second half, **videos of classroom activities** (from both the resource person and participants) were shared.
    - These demonstrations showcased real-life classroom practices and creative ways of implementing textbook activities effectively.

5. **Challenges in Activity Implementation:**
    - The session concluded with an **open discussion on challenges** faced by teachers in conducting science activities—ranging from time constraints, limited materials, classroom management, to diverse learner needs.
    - Participants shared **practical strategies** and peer suggestions to overcome these hurdles.

Session Highlights:

- Highly **interactive and reflective**
- Promoted **collaborative exchange** of best practices
- Strengthened teachers' understanding of the **integrated approach** of concept–activity–assessment
- Reinforced the goal of **making science learning joyful, experiential, and outcome-driven**

SESSION 4

INQUIRY-BASED LEARNING IN ACTION

-BY SMT S MANJULA, TGT SCIENCE, KV GOCHIBOWLI

Session Overview:

This final session of the day focused on the practical implementation of Inquiry-Based Learning (IBL) using selected chapters from the Class 6 Science textbook "Curiosity." It built upon the pedagogical shift toward student-led exploration and helped teachers visualize how inquiry can be embedded meaningfully in classroom practice.

Key Focus Areas:

Understanding Inquiry-Based Learning (IBL):

The session began with a brief recap of what inquiry-based learning entails:

- Encouraging students to ask questions
- Exploring phenomena through investigation
- Constructing knowledge through observation, experimentation, and reasoning
- Reflecting on outcomes and revising understanding

The resource person emphasized that IBL moves away from a "teacher-tells, student-remembers" model to one where learners take charge of their own learning process, with the teacher acting as a facilitator.

Application through Class 6 Chapters:

Selected chapters from the Class 6 textbook were used to demonstrate how IBL can be naturally integrated into lesson delivery.
Participants worked with real textbook examples that highlighted:

- Embedded curiosity-driven questions
- Activities and experiments that require observation, prediction, and interpretation
- Opportunities for collaborative exploration among students

Teachers reflected on:

- How to frame effective inquiry questions
- How to guide learners to design investigations
- Techniques for scaffolding learning without giving away answers

Strategies for Effective Implementation:

Participants discussed and brainstormed classroom strategies to support IBL, such as:

- Starting with simple “why” or “what if” questions
- Using local examples and materials to ground investigations
- Allowing students to record observations in science journals
- Promoting group discussion and peer learning
- Creating a safe environment where questioning and mistakes are encouraged

Interactive Reflections and Sharing:

- Teachers shared experiences from their own classrooms where inquiry-based methods were successful
- Some also discussed challenges, such as time constraints, varying student abilities, and assessment of open-ended tasks
- Resource person provided practical tips on classroom management during inquiry sessions and ways to document learning outcomes

Conclusion:

The session concluded by reinforcing the idea that inquiry is at the heart of scientific thinking and must be nurtured from an early age.

Participants were encouraged to restructure their lesson plans to include more opportunities for questioning, exploring, and reflecting—ensuring that science is not just taught but experienced.

Takeaways:

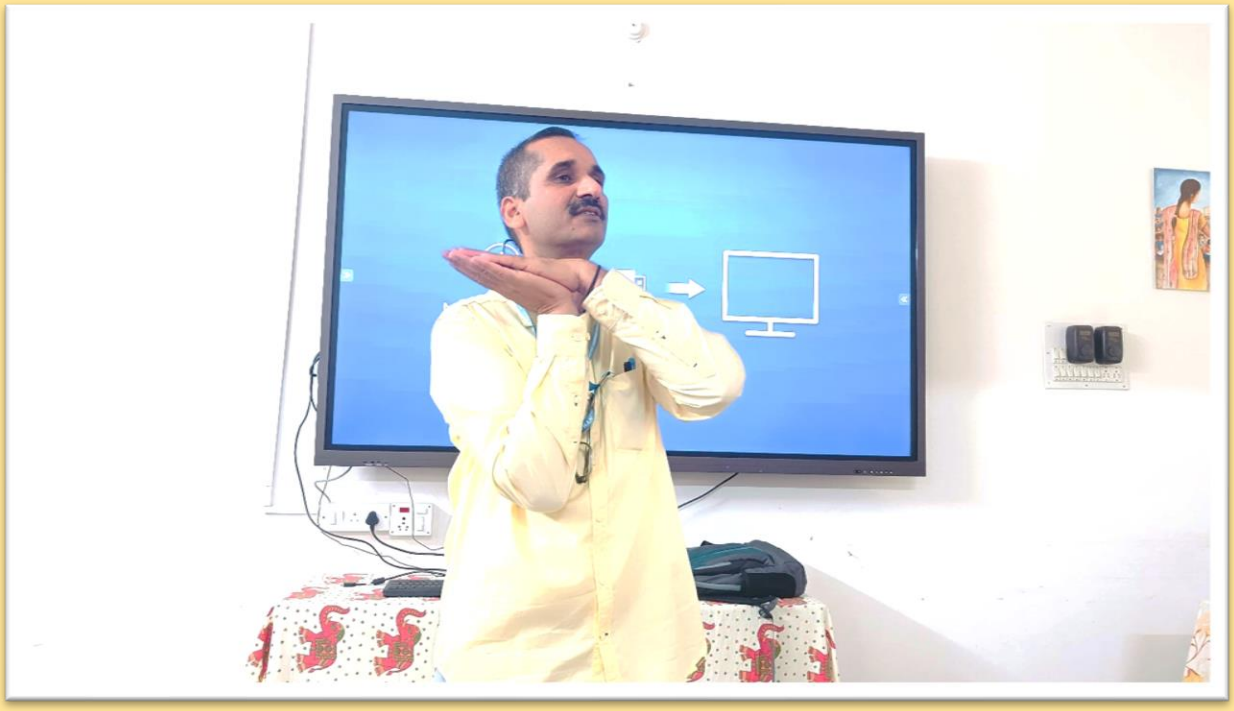
- Inquiry-based learning promotes deep engagement and long-term retention
- It develops critical thinking, curiosity, and independent learning skills
- With the right guidance and planning, every science lesson can become an opportunity for inquiry

DAY-2 (29.07.2025)

SESSION 1

TRADITIONAL KNOWLEDGE SYSTEMS IN INDIAN SCIENCE

-BY MR. DINESH KUMAR, TRAINING ASSOCIATE (PHYSICS), ZIET MYSORE



This short yet fascinating session highlighted the **richness of India's traditional knowledge systems**, linking ancient practices with modern scientific understanding. Mr. Dinesh Kumar shared various **indigenous remedies, observations, and rituals**, showing how traditional wisdom often has deep **scientific and medicinal relevance**.

Key Insights Shared:

🌿 **Medicinal Uses of Plants and Natural Substances:**

- **Banana stem juice**: Believed to help remove kidney stones
- **Pumpkin stalk**: Acts as a **natural preservative** for pumpkin and a **healing agent** for scorpion bites
- **Touch-me-not plant (Mimosa pudica)**: Leaf juice helps cure **urinary tract infections**
- **Cow ghee + turmeric + rock salt**: Used as a traditional remedy for **scorpion stings**
- **Dhatura (Silcona belladonna)**: Contains compounds used in **malarial medicine**

- **Tulsi (Holy Basil)**: When heated, releases **salicylic acid** (a component of aspirin); hence diya is offered as a ritual with scientific basis

🔔 **Scientific Interpretations of Cultural Practices:**

- **Ringing a bell at the entrance or during rituals**: The vibrations **repel insects**
- **Clapping during prayer or bhajans**: Stimulates **acupressure points**, promoting bodily health
- **Chanting "OM"**: Referred to as the **sound of the universe**, promotes mental harmony and spiritual energy

🧘 **Breathing and Body Awareness:**

- **Right nostril**: Inhales **warm air** (heating effect; may induce fever)
- **Left nostril**: Inhales **cool air** (cooling effect; may cause cold)
- At a **brief moment each day**, both nostrils function in balance – said to be a **powerful time for manifestation** or intention setting

💍 **Symbolism in Rituals:**

- **Ring finger** is used during engagement because it is believed to be a **fertility-linked nerve channel**
- Other fingers are associated with different **organ systems and energies**

🎶 **Spiritual Instruments in Meditation:**

- Ideal meditation sounds include:
    - **Damru (Shiva)**
    - **Basuri/Flute (Krishna)**
    - **Veena (Sushruta)**
      These are considered the **purest vibrations** in traditional Indian thought, promoting inner peace and focus.

Conclusion:

The session offered a **unique blend of traditional wisdom and scientific reasoning**, encouraging participants to **recognize the scientific roots in age-old Indian practices**. It also inspired educators to explore how such knowledge can be **integrated into teaching** to promote respect for indigenous science and a holistic understanding of well-being.

SESSION 2

ROLE OF ART, VALUES AND ENVIRONMENT IN SCIENCE EDUCATION

-BY SMT SANDHYA S, TGT SCIENCE, PM SHRI KV SAP PEROORKADA

🧠 Group Activity Card

Activity Name: *"A Good Teacher Is..."*
Objective: To reflect on the essential qualities of a good teacher and recognize the diversity of perspectives among educators.

Instructions:

1. Complete the sentence:
   "A good teacher is…"
2. Each participant must write a **unique** response.
3. Share your sentence with the group.
4. Reflect on which qualities resonate most with your teaching style.

💡 Sample Responses:

1. A good teacher is **a facilitator**
2. A good teacher is **a motivator**
3. A good teacher is **a lifelong learner**
4. A good teacher is **a guide**
5. A good teacher is **a role model**
6. A good teacher is **a patient listener**
7. A good teacher is **a creative thinker**
8. A good teacher is **an empathetic soul**
9. A good teacher is **a passionate educator**
10. A good teacher is **a good communicator**

11. A good teacher is **a curious explorer**
12. A good teacher is **an agent of change**
13. A good teacher is **a reflective practitioner**
14. A good teacher is **a problem solver**
15. A good teacher is **a mentor**
16. A good teacher is **a source of inspiration**
17. A good teacher is **a team player**
18. A good teacher is **a value-giver**
19. A good teacher is **a critical thinker**
20. A good teacher is **a learner among learners**
21. A good teacher is **a nurturing presence**
22. A good teacher is **a bridge between knowledge and understanding**
23. A good teacher is **a flexible planner**
24. A good teacher is **a resilient leader**
25. A good teacher is **a promoter of inquiry**
26. A good teacher is **an innovator in the classroom**
27. A good teacher is **a supporter of all learners**
28. A good teacher is **a voice of encouragement**
29. A good teacher is **a champion of diversity**
30. A good teacher is **a spark of curiosity**
31. A good teacher is **a firm but fair guide**
32. A good teacher is **a continuous improver**
33. A good teacher is **a mirror for self-awareness**
34. A good teacher is **a cultivator of imagination**
35. A good teacher is **a mindful observer**
36. A good teacher is **a model of integrity**
37. A good teacher is **an architect of future citizens**
38. A good teacher is **a seeker of truth**
39. A good teacher is **a believer in potential**

The session highlighted the **integrative role of art, values, and environmental consciousness** in enriching science education as per the **National Curriculum Framework for School Education (NCF-SE)** and **NEP 2020**. The aim is to foster **joyful, experiential, and value-oriented learning** that connects scientific concepts with real-life applications and emotional engagement.

1. Integration of Art in Science Education:

- **Music – Sound Chapter (Grade 8):** Students explore vibrations, frequency, and pitch through musical instruments. Rhythmic activities help understand waveforms and harmonics, making the learning process **auditory and kinesthetic**.
- **Dance – Motion & Muscular Movements (Grade 6-7):** Concepts of motion, force, balance, and coordination are taught through dance. It aids in understanding the biomechanics of the human body and Newtonian motion in a **creative and embodied** way.
- **Joyful Learning:** Art-based approaches—like **songs, storytelling, roleplay, comic strips, and collage-making**—make abstract science concepts tangible and relatable, fostering curiosity and deeper retention.

2. Use of Poetry and Storytelling:

- In the **Magnet Chapter (Class 6, NCERT New Textbook)**, poetry and narratives are introduced to illustrate attraction, repulsion, and magnetic field lines, helping learners **visualize invisible forces** and **develop language-science integration**.

3. Roleplays, Collages, and Comics:

- These tools help in **simplifying complex topics**, encouraging **collaborative learning** and **empathy**, especially in topics like **health, nutrition, environment, and human body systems**.

4. Values in Science Education:

- **Celebration of Science Days:** Observing days like National Science Day, World Environment Day fosters scientific temper, environmental awareness, and **community participation**.
- **Eco Clubs & Electricity Bill Audits:** Hands-on projects such as school energy audits instill responsibility, **data interpretation skills**, and a **sense of sustainability** among learners.
- **Mindful Eating Chapter (Class 6-7):** Discussions on food choices link to **values like empathy, self-awareness, gratitude, and ethical consumption**. Students reflect on **what they eat, how it's sourced**, and its **impact on health and environment**.

5. Ethical Values & Scientific Responsibility:

- Ethical dilemmas and scientific responsibilities are integrated through **scenario-based learning and critical discussions**, making students aware of their role in using science **for societal and environmental good**.
- Students are encouraged to practice **integrity in data reporting, respect for life, care for nature**, and **curiosity with caution**.

6. Full Form of LEARNERS (as per NCF/NEP spirit):

While there is no *official* acronym for "LEARNERS" in NEP, a reflective interpretation aligned with the framework could be:

L – Learn by doing
E – Empathize with others
A – Apply knowledge in real life
R – Reflect critically
N – Nurture nature
E – Express creatively
R – Respect diversity
S – Serve society

CLASS 8 CHAPTER-WISE DEMONSTRATION OF LESSON BY PARTICIPANTS

STEP 1- PREPARING FOR DEMO IN GROUPS

As part of the hands-on engagement in the New Textbook Orientation Workshop at ZIET Mysore, participants were divided into small groups comprising 4–5 members. Each group was assigned a lesson from of the new science textbooks for Class VIII.

The participants actively collaborated to plan and prepare the demo lessons, focusing on the competency-based and activity-oriented approach promoted in the new curriculum. They

thoughtfully selected age-appropriate activities, integrated real-life examples, and discussed effective teaching-learning strategies that could be applied in real classrooms.

The group presentations reflected creativity, teamwork, and a deep understanding of the learning outcomes and pedagogical intent of the revised chapters. These collaborative sessions not only enriched peer learning but also empowered teachers with practical strategies to implement the textbook content more meaningfully and joyfully.

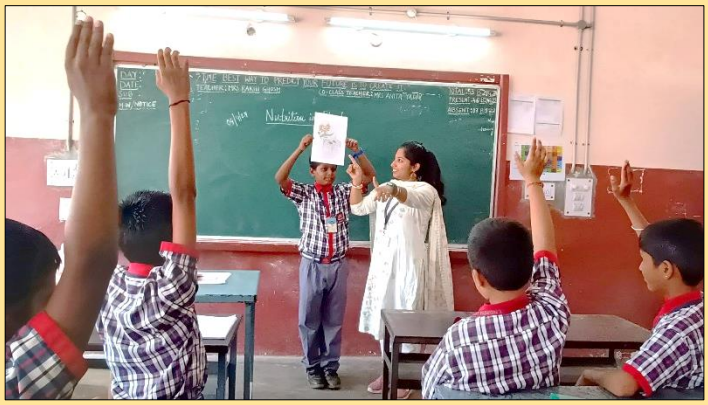
STEP 2 -PRESENTATION OF LESSON

DAY-3 (30.07.2025)

STORIES OF BEST PRACTICES SHARED BY PARTICIPANTS

1. By RAKHI GHOSH (TGT SCIENCE)

PM SHRI KENDRIYA VIDYALAYA NO.1 JALAHALLI, BANGALORE REGION



"Guess the Nutrition – A Cartoon Clue Game!"

In my Class 7 Science class, I introduced the chapter "Nutrition in Plants" in a rather unusual and fun-filled way. I wanted to break the monotony of textbook reading and bring in an element of creativity, imagination, and peer collaboration. That's when an idea struck me—a fusion of science, cartoons, and dumb charades!

I began by preparing a series of hand-drawn cartoonified concept sketches representing different modes of nutrition—autotrophic nutrition, heterotrophic nutrition, parasitic plants, saprotrophs, and symbiotic relationships. These weren't just diagrams; each cartoon had a quirky twist—like a plant holding a 'chef's hat' while preparing food, or a parasite clinging like a mischievous child!

The next day, I entered the class holding a mystery envelope. The students were curious. I announced, "Today, we are going to play science!"

I invited one student to the front. I handed them a sheet with a cartoon drawing—but with a twist—they were not allowed to look at it. The rest of the class could see it clearly and were asked to give clues—not direct names—but descriptions, sounds, actions, or analogies related to the cartoon. The student holding the drawing had to guess the process being shown, just like a game of dumb charades with words.

For example, when a drawing showed a plant cooking its own food using sunlight, students gave clues like:

“It wears a green apron!”

“It loves sunlight more than rain!”

“It’s the chef of the plant world!”

Soon, the guesser excitedly shouted, "Autotrophic nutrition!" and the class erupted in cheer.

Each turn brought laughter, intense thinking, and lots of “Aha!” moments. The best part was how even the shy students enthusiastically participated—either in giving clues or making intelligent guesses.

Through this playful approach, students not only learned the types of plant nutrition but also visually imagined the processes. They started relating abstract biological terms with memorable, joyful images, giving faces to concepts that once felt distant.

More importantly, this activity ignited their imagination, strengthened peer learning, and made them realize that science can be playful, too. The impact was clearly visible in their retention during assessments and the way they recalled “the plant with the chef’s hat” or “the clingy guest on another plant.”

This method proved that a simple drawing and a joyful guessing game can turn even a textbook concept into a living experience—one that stays with them for a long time.

2. **MRS. P SUCHITRA (TGT SCIENCE)**

PM SHRI KV KANJIKODE, ERNAKULAM REGION

I have been conducting online Google form-based tests for students of class 10, twice every week, with the consent of their parents. Each test is of 15-20 marks and includes general MCQs, competency-based questions, assertion and reasoning type questions, questions based on practical/ activities, picture/flowchart/ diagram labelling- questions intended to check critical thinking and problem-solving skills.

The tests are conducted from small topics, pertaining to the concepts dealt with in the previous couple of days in the class and so it makes it easier for the students to prepare smaller topics at a time helping them to plan and develop a study schedule for the subject to be followed on a daily basis. The result of the test is analysed and a follow up of the test is conducted in class the very next day wherever possible so that doubt clearing/ reteaching can be carried out for any concept as per the analysis of the responses. A majority of the students and their parents have given positive feedback regarding the conduct of the tests.

3. PADMAREKHA A K (TGT SCIENCE)

PM SHRI KV PATTOM SHIFT-2, ERNAKULAM REGION

* Use of smart boards for assessment of students to record observations soon after completion of an activity related to a particular concept that enhances recognition of learning gaps if any for the facilitator and improves vocabulary/ framing of sentences among students.

* Use of mnemonics that are locally oriented, diagrams that are easy to draw and recall for hard working students to have grasp on concepts of MLL

* Use of Phet simulations for students to perform activities related to chemical reactions not viable in the lab

4. Mrs DEEPA KUMARI (TGT SCIENCE)

PM SHRI KV THRISSUR, ERNAKULAM REGION

As part of integrating best practices in science education and promoting awareness of healthy eating habits, Class VI D conducted a vibrant Millet Fest under the guidance of Ms. Deepa Kumari G (TGT SCIENCE)

The event focused on showcasing the nutritional and environmental benefits of traditional millets like ragi, bajra, foxtail millet, and jowar. Students participated with great enthusiasm by preparing a variety of millet-based dishes, creating informative charts and presentations, and engaging in discussions about the eco-friendly nature of millet cultivation.

This activity promoted:

Experiential and activity-based learning

Scientific and environmental awareness

Teamwork, creativity, and communication skills

5. MISS PRIYALI PRIYADARSHINI (TGT SCIENCE)

PM SHRI KENDRIYA VIDYALAYA MINAMBAKAM, CHENNAI REGION

As a teacher, I always look for ways to make learning more meaningful and enjoyable for my students. I believe that when students are actively involved and can relate to what they are learning, the impact is much deeper. Here are two simple yet effective practices I have recently followed in my classroom:

Concept Mapping Before Starting a Chapter

Before beginning any new lesson, I create a concept map on the board. This gives students a clear overview of the chapter and helps them understand how different topics are connected. It also gives them an idea of what to expect and helps in building curiosity. I've noticed that this makes it easier for students to follow along and connect new knowledge with what they already know.

Mini Ecosystem Project (STEM Activity)

While teaching the chapter Living Organisms, I planned a STEM-based activity where students created a mini ecosystem inside a glass jar. This hands-on project was a great success. Students collected soil, plants, small stones, and even tiny insects to build their own ecosystem. Through this activity, they could clearly observe how living and non-living things interact and depend on each other. It turned out to be a fun and educational experience that they truly enjoyed.

6. **DORAKUMAR REDDY AMBAVARAPU (TGT SCIENCE)**

PM SHRI KV ONGOLE, HYDERABAD REGION

A Small Act, A Big Change

One day in my class, I noticed a girl named Emilda who was always withdrawn and reluctant to participate. I learned that she was struggling with confidence because she feared making mistakes in front of others.

The next day, I gave her a simple task that I was sure she could do well — Demonstrating turmeric as a natural indicator. When she completed it successfully, I praised her in front of the class. Her face lit up with pride, and from that moment, she began raising her hand more often and even helping her classmates.

This experience taught me that sometimes, a little encouragement and personal attention can bring a remarkable change in a child's behaviour.

7. **JYOTI PANDEY (TGT SCIENCE)**

PM KV NO.2 AFS TAMBARAM, CHENNAI REGION

Title: Enhancing Conceptual Clarity and Timely Syllabus Completion through Diagram-Based Teaching

Objective:

To ensure timely completion of the syllabus while enhancing conceptual understanding among students, especially those who are hardworking but may struggle with theoretical learning.

Challenge Faced:

Completing the vast syllabus of Class X Science on time while ensuring that all students, particularly those who are sincere and hardworking, grasp the concepts thoroughly. Chapters like Light and Life Processes often pose difficulties due to their abstract or process-oriented nature.

Strategy Adopted:

To overcome this challenge, I adopted a diagram-focused teaching approach for concept-heavy chapters such as Light (Physics) and Life Processes (Biology). Key scientific principles and processes were explained using clear, labelled diagrams on the board, in presentations, and in students' notebooks. This visual method was consistently used to simplify complex information, aid memory retention, and build deeper conceptual understanding.

Implementation:

Taught the chapters primarily through well-drawn and step-by-step diagrams, minimizing excessive textual explanation.

Encouraged students to draw along during teaching to promote engagement and retention.

Conducted regular short assessments based on diagrams and their explanations to reinforce learning.

Results and Impact:

Students performed significantly better in these chapters during assessments compared to others.

Hardworking students, who previously found it difficult to express theoretical concepts, showed improved confidence and clarity.

Syllabus coverage became more efficient, saving time for revisions and doubt-clearing sessions.

Conclusion: This best practice of teaching through diagrams not only enhanced student performance but also made Science more interactive and less intimidating. It is now a regular part of my pedagogy, especially for chapters involving processes, structures, or mechanisms.

Recommendation:

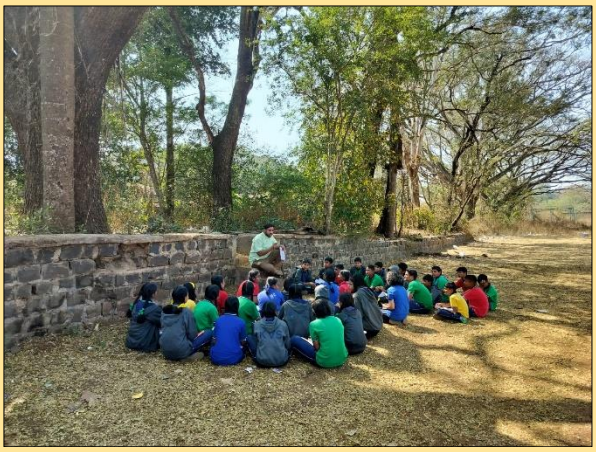
This method can be scaled and adapted for other classes and subjects, particularly where visual learning aids comprehension.

8. **SHASHANK N RAO (TGT SCIENCE)**

PM SHRI KENDRIYA VIDYALAYA NO.2 BELAGAVI CANTT., BENGALURU REGION

A class under a Tree

The learning space should not be limited to the four walls of a classroom, as the whole world is a classroom and we all are learners learning one or the other thing on a daily basis. Class VIII Chapter from the Old NCERT Text book: Conservation of Plants and Animals discusses the need, significance the steps that can be taken at an individual level by the students, teachers, members of the society and the government in the direction of protecting the wildlife and other natural resources. Uncovering the topics discussed in this chapter while being seated below a tree in an open-air set-up was a new experience to both the students as well as me. The students made tiny puppets of different animals and we together narrated simple tales from the jataka tales thus, including a small part from the traditional Indian Ethos and values. We all enjoyed thoroughly while we learnt the significance of co-existence with all the other fellow animals and plants with whom we share this blue planet with.



Open-air Class under a tree

Students exhibiting their puppets.

9. NEHA SINGH (TGT SCIENCE)

PM SHRI KENDRIYA VIDAYLAYA NO.1 GOLKONDA, HYDERABAD REGION

Field Trip to School Garden for Biodiversity Exploration (Class VI)

Objective:

- To develop students' understanding of biodiversity by direct observation and interaction with living organisms in the school garden.
- To foster skills in scientific observation, data recording, and collaboration through experiential learning.

- To help students appreciate the ecological interdependence and value of diverse species in maintaining ecosystem health.

Values:

- Curiosity and inquiry through hands-on learning
- Respect and care for living organisms and the environment
- Responsibility for conserving biodiversity and natural habitats
- Collaboration and communication among peers during group activities

Preparatory Steps:

- Introduce the concept of biodiversity, explaining it as the variety of living organisms in an ecosystem. Discuss the importance of biodiversity in ecosystem balance.
- Explain the plan for visiting the school garden as a living laboratory to observe plants, insects, birds, and soil organisms.
- Divide the class into small groups and assign roles within each group (note-taker, observer, photographer, timekeeper). Provide each group with simple tools like notebooks, pencils, magnifying glasses, and cameras if available.

Field Trip Activity:

- Set ground rules for safety and respectful behaviour in the garden.
- Guide students to quietly explore designated areas of the garden, encouraging close observation of different species and their interactions (e.g., pollinators visiting flowers, ants on soil).
- Encourage students to record their observations: species names (common names), numbers seen, descriptions of behaviours, and any interesting interactions.
- Facilitate identification of organisms using simple guides or expert assistance if available.
- As students work, ask probing questions to deepen their understanding of how biodiversity contributes to a resilient garden ecosystem.

Post-Trip Discussion and Reflection:

- Have students share their findings orally or through drawing/poster presentations.
- Lead a discussion on how the variety of species helps the garden adapt to changes and supports ecosystem services like pollination and soil health.
- Encourage students to suggest actions to protect and enhance biodiversity in their garden and community.

This experiential approach not only supports learning science content but also builds environmental stewardship and critical thinking. By engaging directly with biodiversity in the school garden, Class VI students connect theory with real-world ecosystems, fostering lasting values toward nature.

This plan integrates objectives, core values, and practical steps for a meaningful experiential learning field trip in a school garden to explore biodiversity with Class VI students. It is modelled on expert suggestions from garden-based education programs and biodiversity lesson plans

10. MANITA BHARTI (TGT SCIENCE)

PM SHRI KV CRPF AVADI, CHENNAI REGION

In all my classes after finishing my lesson I tell my students to think of any concept that they feel is very difficult to understand. Then students who come forward with their difficult concepts I tell them that I will not explain to you rather you think that the same concepts you have to explain to your younger brother or any junior. Then next day I will ask them that suppose I am that younger brother

and junior and you have to explain the concept to me. This way in my last years of teaching I have observed that children try to learn on their own and understand the topic.

11. MUKTA KUMARI KHATNAWALIYA TGT (SCIENCE)

PM SHRI KENDRIYA VIDYALAYA MALLESWARAM (SHIFT-I), BENGALURU REGION

Activity: Exploring Magnets (VI)

Description:

Learners were divided into groups and provided with magnets. They were given the freedom to explore and discover the concepts of magnetic attraction and repulsion on their own. Through open-ended inquiry, students engaged in hands-on experimentation and collaboratively designed various activities to demonstrate how like poles repel and unlike poles attract.

Impact:

This exploratory approach fostered curiosity and creativity, collaboration, boosting student motivation and engagement.

It also promoted a supportive and inclusive classroom environment where learners felt safe to experiment, share ideas, and take intellectual risks.

13. **SALINI SINGH (TGT SCIENCE)**

PM SHRI KV AFS SULUR, CHENNAI REGION

Activity: Use Natural Indicators

Materials:

Litmus solution (natural indicator)

Household substances (lemon juice, vinegar, baking soda solution, soap solution, etc.)

Droppers or spoons

Steps:

Start with a question: “How can we tell if something is acidic or basic without tasting it?”

Introduce indicators (brief theory): Explain how indicators change color in acids and bases.

Demonstrate litmus as an indicator: Show how it changes color with lemon juice (acid) vs. baking soda (base).

After that told them how to make and use turmeric as an indicator.

Student Experiment: Gave them homework to come with a turmeric paper sheet and some substances. Then the next day in class they all made a greeting with those things. They pasted it in your notes also.

14. **RENJINI S (TGT SCIENCE)**

PMSHRI KV NO.3 PORT TRUST KOCHI, ERNAKULAM REGION

Green School Activities as A Part of Competency Based Science Learning

A collaborative unit of rainwater harvesting, hydroponics, composting, vegetable gardening and drip irrigation was developed in PM Shri Kendriya Vidyalaya Port Trust. A rain-water shed was constructed for rainwater harvesting, which is used for hydroponics and drip irrigation. Attached with this vertical garden is developed where Amaranthus plants followed by lady’s finger and brinjal were cultivated. Turmeric plants were planted in coir pith with a drip system. An automatic watering system with a timer, connected to the rainwater harvesting system to control supply of water.

Visible changes observed:

- Children gained awareness and hands-on experience in modern farming practices.
- Children who are directly involved gave training to other children.
- Children got awareness about hydroponics, drip systems, composting and rainwater harvesting.

- Children were doing composting of plant wastes in garden itself and compost is used for gardening as an organic manure.

<u>Traditional Farming in Our School Garden</u> *<u>Growing Amaranthus & Chilies Sustainably</u>*

<u>What is Traditional Farming?</u>

Oldest methods of agriculture, often passed down generations.

We are planting chilies, Amaranthus in soil where children learn agricultural practices by learning by doing. Also, we do turmeric farming in coir pith with Drip irrigation

15. ANJALI YADAV (TGT SCIENCE)

KV IIT CHENNAI REGION

"Hope in My Classroom"

It was an ordinary school day when I first noticed "Hope" a quiet child with a curious sparkle in his eyes. As a Science teacher, I observed that he often struggled with group activities and avoided eye contact—but there was something special in the way he gazed at the models on the lab shelf. Later, I came to know that Hope was a child with autism.

Rather than letting this label define him, I decided to build an inclusive learning space where Hope could thrive. I began using visual aids, hands-on activities, and step-by-step instructions. I assigned a science buddy each week who supported him with empathy, not sympathy.

To my joy, Hope started looking forward to our science classes. He began asking questions, participating in experiments, and even helping me set up the models. His science notebook became one of the neatest in class—each diagram carefully labeled, every assignment completed with pride.

The transformation didn't stop with him. His classmates began to understand, accept, and include him naturally. They now eagerly volunteer to be his science buddy. What started as a challenge turned into a beautiful journey of inclusion.

Today, when I see Hope raise his hand with excitement or cheer during an activity, I know I'm doing more than teaching Science-I'm teaching acceptance, empathy, and the joy of learning together.

16. NOBLE V SEBASTIAN (TGT SCIENCE)

K V THALASSERY, ERNAKULAM REGION

Experiential learning on the chapter light of class VII

It was a Sunny afternoon in the month of November 2024. After completing the chapter "Light" in class VII, the students were given spherical Mirrors, lenses and prisms to explore themselves whatever they had learnt about them in the previous classes. It was a wonderful experience for the students' who in small groups conducted various activities making use of the above- mentioned articles. Some students were engaged in trying to burn a large piece of dry teak leaf with the help of a convex lens. Some students were trying to show the images of distant objects like trees, buildings etc. on their notebooks which were used as screens. Some students used the prism to obtain a band of seven colors (VIBGYOR) on the white car (belonging to a staff member) parked on one side of the ground, of course without causing any harm to the car. children were given clear instructions of what to do and what should not be done. The whole period was utilized in these activities and all the students actively got themselves involved in the activity. In the end, some of the students were asked to give a brief description of the activity they had undertaken. It was a fruitful period for the students to experience what they had learned in the class and a satisfying moment for the teacher.

17. T BHANU PRASAD (TGT SCIENCE)

PM SHRI KV SVP NPA SHIVARAMPALLI, HYDERABAD REGION

Hands on Activity-Diffusion

As part of my best teaching practices, I conducted a hands-on activity to help students understand the concept of diffusion through direct observation and exploration. Students were given simple materials like beakers of water, food colouring, and potassium permanganate crystals. They observed how the substances spread on their own in water without stirring. This visual and interactive experience allowed them to grasp the idea that particles move from an area of higher concentration to a lower one. By engaging their curiosity and senses, the activity made the concept of diffusion more relatable and easier to understand. It also encouraged critical thinking as students discussed their observations and connected them with real-life examples, such as the smell of perfume spreading in a room. This approach not only deepened their understanding but also made learning more enjoyable and meaningful.

18. SUDHA TV

PM SHRI KV INS ZAMORIN EZHIMALA, ERNAKULAM REGION

One of the students in my class VIII looked lazy and not interested in classroom studies. When I gave him activities related to day-to-day real-life situations, he showed interest to learn.

My Kendriya Vidyalaya is a small unit (Defence school) where I faced a challenging class — class VIII. Most of the students were with full of energy and distraction. One student named Devansh was always seeming disinterested. He never answered questions, and often looked out of the window and rarely submitted classwork and homework.

When I gave the class a project-based learning approach to design a sustainable garden that can grow in your school using local waste material, Devansh became deeply involved and did it with his friends.

He said that he couldn't keep up with textbook questions, but when the teacher made science feel real, he could see it and touch it, and felt like he belonged.

After that, I changed my attitude and began integrating local examples, encouraging curiosity, and giving voice to every learner, not just the toppers.

The best of teaching practice is not just delivering content, but creating connections with real life, and with each student.

19. LALY MATHEW (TGT SCIENCE)

PM SHRI KV KOLLAM, ERNAKULAM REGION

I was explaining about hydrotropism in class 10 showing the experimental set up with the help of PPT. Then I saw one student thinking something else. I asked him why are you not listening in the class? He said no madam I was thinking about hydrotropism only. After few days he brought a small plant from his Garden and told me, see madam all the roots are growing towards one side only, is it hydrotropism?

I was wondered!

20. LAKSHMI VENUGOPAL (TGT SCIENCE)

PM SHRI KENDRIYA VIDYALAYA KOTTAYAM, ERNAKULAM REGION

Topic: Photosynthesis

Class :7

Method: Experimental method.

Objectives: To identify the importance of light in photosynthesis.

The teacher conducted the experiment including students to see the importance of light in photosynthesis. All the procedure were carried out by children very enthusiastically and final step of Starch test was the most interesting one where students were very much eager to see the results whether plant could prepare starch in absence of light.

The concept was very clear by observing the result of Starch test on leaves

21. K. SAHITHYA (TGT SCIENCE)

PM SHRI KENDRIYA VIDYALAYA, MACHILIPATNAM, HYDERABAD REGION

Innovative Teaching Experience: Explaining the Solar System Without Infrastructure (Year: 2021)

In the academic year 2021, our Vidyalaya was functioning without adequate digital infrastructure such as interactive panels, projectors, or even basic equipment to display educational videos or PowerPoint presentations. Despite these limitations, I was determined to ensure that the learning experience for my Class 8 students remained engaging, meaningful, and conceptually strong—especially for abstract topics like the *Solar System*.

The chapter required students to understand dynamic celestial movements—such as the Earth's rotation on its tilted axis, the revolution of the Moon around Earth, and how all planets revolve around the Sun. One of the key learning outcomes was helping students comprehend why the Sun appears to rise in the East, which is a direct consequence of the Earth's rotation from West to East. Additionally, I wanted them to grasp that this phenomenon varies across other planets due to their unique rotational directions.

To overcome the absence of technological tools, I decided to adopt a hands-on, experiential approach. I took the students to the school playground, where I created a live model of the solar system using the students themselves. I prepared name tags for each celestial body—Sun, planets, and moons—which the students wore. I assigned each student a role and arranged them in order from the Sun outward.

Each student was guided to enact the movement of their respective planet or satellite—rotating on their axis while simultaneously revolving around the Sun. The student acting as the Earth demonstrated both rotation (from West to East) and revolution, while the "Moon" revolved around the "Earth." This kinesthetic activity brought the concept to life. I also paused at intervals to highlight how and why the Sun appears to rise in the East for Earth, and how that would be different for planets like Venus or Uranus.

The joy and enthusiasm the students exhibited during the activity were unmatched. More importantly, their conceptual clarity significantly improved, as observed in their follow-up responses and assessments. The experiential learning model helped bridge the gap left by the lack of digital tools and fostered a deeper understanding through participation, visualization, and movement.

This experience reaffirmed my belief that *lack of resources should never be a barrier to effective teaching.* Creativity, passion, and student involvement can transform any setting into a meaningful learning environment.

Though now we have very good infrastructure, I feel just looking at interactive panel or videos are not very engaging. So I wanted my children to move actively and do things to understand topic. So I thought why don't I use the same method which I used few years back. So I have planned this.

Planned Interactive Biology Activity: Demonstrating Double Circulation Using the School House System

To make the concept of double circulation in the human body more engaging and understandable, I am planning an interactive activity that creatively uses our Vidyalaya's house system. This will be conducted as part of an Activity Day to combine fun with deep conceptual learning.

Each school house will represent a different component of the circulatory system:

Blue House – Deoxygenated blood

Red House – Oxygenated blood

Green House – Lungs

Yellow House – Heart valves

I will draw a large heart diagram on the school lobby floor using chalk and colored markers to serve as the activity area. Students will take on the roles of blood cells and move through this space, simulating the flow of blood through the heart and lungs.

They will walk through:

The right atrium and right ventricle, carrying deoxygenated blood to the lungs (Green House)

The gas exchange process (where CO_2 is released and O_2 is received)

The return journey to the heart with oxygenated blood through the left atrium and left ventricle

And finally, the movement of oxygen-rich blood to the body

The Yellow House, representing heart valves, will help demonstrate how valves prevent the backflow of blood, enhancing understanding of their importance in circulation.

This activity will help students visualize the concept of double circulation, understand the distinction between pulmonary and systemic circulation, and actively participate in learning through role-play and movement. By walking through the process and acting as components of the circulatory system, students will gain a more intuitive and lasting grasp of the topic.

This future event is expected to be highly interactive and memorable, combining creativity, physical involvement, and teamwork to bring textbook diagrams to life in a real-world setting.

22. KOMAL SHARMA (TGT SCIENCE)

PM SHRI KV ASC CENTRE, BANGALORE REGION

I would like to share an incident while I was teaching the topic vitamins and minerals from the chapter mindful eating class 6.

It so happens that whenever we teach this topic we just tell them verbally about the name of fruits and vitamins that we gain from them and show them the pictures of deficiency diseases.

An idea came to my mind that why not ask the students to bring some fruits to school. The next day they all brought fruits. I kept them in a box and the students were asked not to look at them.

I asked them to guess the fruit without looking. So the next question that was put to them was how can we guess the fruit without looking.

They said by smelling and touching the fruits we can guess the name. So the students carried out an activity where they tried to guess the fruit by smelling it and if they couldn't guess by smelling it they were asked to touch and guess.

All enjoyed the activity thoroughly and understood several things about the fruits, their characteristics, uses and deficiency diseases.

This led me to think that if we connect theoretical knowledge with practical hands-on experience. The transfer of knowledge becomes easier and teaching-learning process becomes enjoyable.

23. ALKA RANI MISHRA (TGT SCIENCE)

KV STEEL PLANT VISAKHAPATNAM, HYDERABAD REGION

A Spark That Ignited a Scientist

A few years ago, I had a student in Class 8 who never showed interest in any co-curricular activities. He was shy, quiet, and always stayed away from the limelight. As a science teacher, I believed every student has a hidden spark — they just need the right push. So, I encouraged him to participate in the school's Science Exhibition. He made a simple model — and to everyone's surprise, it was selected for the regional level science exhibition. That one step changed everything.

From that year onwards, he participated in the Science Exhibition every year with brilliant ideas and innovative models. A transformation had begun — a passion was born. He passed Class XII and moved on, and like most teachers, I lost contact with him as life moved on.

But one day, out of the blue, I received a phone call.

"Ma'am," he said, "I'm a scientist now. I'm working on research, and it's all because of you. In Class 8, you forced me to participate, and from then on, I never stopped. I discovered the scientist inside me — and you, ma'am, are the "mother of the scientist inside me."

His words left me speechless. In that moment, I felt like I had won a Nobel Prize.

Even today, he shares his research work with me. That bond, built in a classroom years ago, continues to grow.

This experience taught me something powerful — sometimes, a gentle push can ignite a fire that lights up someone's entire future. As educators, we are not just teaching subjects; we are shaping destinies.

24. SANDIPTA PAUL (TGT SCIENCE)

PM SHRI KENDRIYA VIDYALAYA HVF AVADI, CHENNAI REGION

While teaching all teachers may have come across the blessed burden of trying to contain the over enthusiasm of smaller students so to facilitate a guided and focused teaching-learning process in the limited timings of single periods per day or so. To be kept in mind is the fact that this unlimited energy if channeled properly could work miracles.

So as to work out a mutually effective methodology and design and activity which would align with the time bound completion of syllabus, I have come up with activity "Grand Celebration of Science this Month", Aligning with that particular month's syllabus.

So a student, Dharshan from Class 6, use to find it very difficult to sit in his assigned seat and complete the whole period's process with attention. It used to appear like there used to be an

invisible glass wall which was hindering the words of all teachers reaching out to him and make any sense. Then comes the time of the Grand Celebration of Science Activity that month and the topic was “Little Health Chefs” under the Chapter concept Mindful Eating and Balance Diet.

To every teacher’s wonder that was the first day we found Dharshan forming a team and fiercely defending his team, debating how his recipe was the healthiest, highlighting each nutrient in depth and explaining all the concepts crystal clear. If not his little recipe but his big efforts deserved the first place. This incident highlights how easy it was to reach out to him and shatter that invisible glass wall to reach the perfection already present in each and every student. Only that we may have to choose a different way every time to reach out the perfection in every different child and then no one can hinder the unfolding miracles.

25. SEEMA SRIVASTAVA (TGT SCIENCE).

PM SHRI K V NO. 2 MADURAI, CHENNAI REGION

TITLE: THE MAGIC OF TURMERIC CARDS

It was the start of science stem week and I was to begin chapter Acidic, basic and neutral substances, the energetic and innovative students of me wanted to do something special. My students, but lately, she had felt they were losing interest in the subject. They needed something hands-on, fun, and educational to bring the spark back.

Then I remembered an old chemistry trick from my school days — turmeric as a natural acid-base indicator.

As I entered the classroom the next morning, eyes twinkling, carrying bowls of turmeric paste, white chart paper, and small bottles of soap solution. The students stared, puzzled but intrigued.

“We're going to make magic greeting cards today,” I announced with a grin.

The class buzzed with curiosity.

I explained: “Turmeric turns red in a basic environment and stays yellow in an acidic or neutral one. Soap is a base. We’ll use this reaction to make secret messages appear!”

First, the students painted turmeric paste onto thick paper and let it dry. The room smelled like a spice shop, and the golden sheets shimmered in the sunlight.

Once dry, I handed them cotton swabs and small cups of diluted soap.

Then I said, “write your greeting or design with the soap. Watch what happens.”

Gasps filled the room as golden cards transformed. The soap trail turned a bright red-brown, standing out vividly on the turmeric background.

The students began crafting cards for their parents, friends, and even the principal — messages of thanks, jokes, doodles, and poems, all revealed by a chemical reaction.

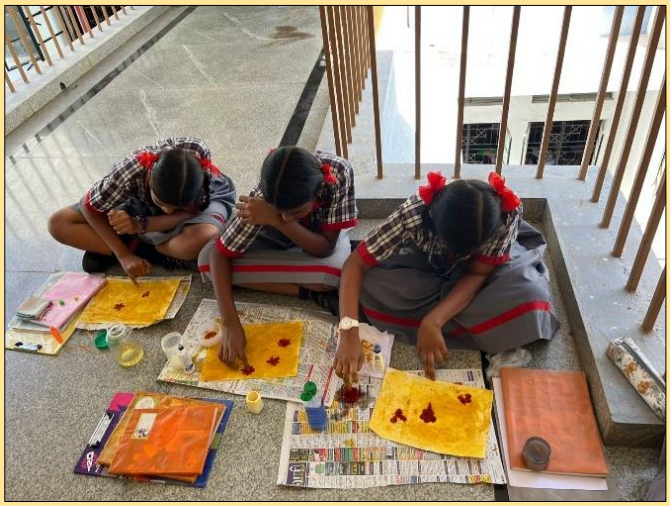
Rakesh, one of the naughtiest students, made a “Thank You” card for the cleaning staff and proudly explained the science behind it in assembly the next day.

I watched as students helped each other, shared soap cups, discussed reactions, and experimented with patterns. What started as a simple science activity had turned into a collaboration of creativity, chemistry, and compassion.

“This turmeric greeting card activity not only made students understand acid-base indicators in real life, but also encouraged communication, expression, and teamwork. Their curiosity drove inquiry, and their art became science. Pedagogically, this activity achieved what lectures couldn’t — deep engagement and joyful learning.”

The next time the principal walked into her classroom during inspection, he was shown turmeric greeting cards with heartfelt messages — a classroom turned into a gallery of science and soul.

This turmeric card activity became a tradition during Science Week by other newly appointed science teachers, reminding everyone that the best lessons are those that students live, not just learn.



26. DR. SUSHMA NASHINE (TGT SCIENCE)

KV KALPAKKAM, CHENNAI REGION

I took the children to the garden in school and asked them to observe the nature.

I ask a few questions to them to develop **inquisitiveness and curiosity in students.**

What do you see around you in nature?

Why are the leaves green?

I encourage them to share their experiences

They started observing plants, soil, insects etc

I asked them to draw what you like in the garden.

I provided them with a lens to observe the small creatures present in the soil.

They started observing and started talking about

Types of plants.

Types of leaves, the different shapes and sizes of leaves

Different types of insects present in soil Animals present in the surrounding.

I asked him to see the pattern in leaves and introduce the term parallel and reticulate venation.

Hands on experiential learning

Nature walk, mini projects, observational journal

Respect for nature

Discuss about medicinal plants, local plants and animals.

Introduce the terms like biodiversity and habitat

Interdependence among living and non-living

Collaboration and good work

Encourage group work in a small group

Compare types of leaves and nation

Types of insects

Importance of nature

Integration

Engage children in shading of leaves, measuring the height, how to write poem to integrate with art, maths, and language

Values

Discuss with them, the importance of water, soil, forest, and animal conservation to inculcate values

It was a wonderful experience for them where they learn by observing nature.

27. SANDHYA SHARMA (TGT SCIENCE)

PM SHRI K V NELLORE, HYDERABAD REGION

🔷 1. Experiential and Inquiry-Based Learning

Example:
While teaching the topic "Monocot and Dicot Seeds" in Class 6 Science, students were taken to the school garden to identify and collect seeds from plants.
They observed types of leaves, seed structure, and root patterns to classify them as monocot or dicot.
This hands-on activity helped them apply textbook knowledge in the real world, encouraging observation, questioning, and classification.

Best Practice Highlighted:

- Real-world connection
- Active student participation
- Observation-based learning

🔷 2. Integration of Cross-Curricular and Life Skills Learning

Example:
To promote mindful eating and cultural diversity, a “Food Fest” was organized under the theme *"Flavours of India."*
Students brought famous food items from different Indian states like Dhokla from Gujarat, Idli from Tamil Nadu, Litti-Chokha from Bihar, etc.
During the activity, they learned about nutritional value, ingredients, preparation methods, and cultural background of each dish.

Best Practice Highlighted:

- Integration of health education, geography, and social science
- Promoting life skills like collaboration, awareness, and presentation

- Fostering respect for regional diversity and healthy eating habits

28. NEETA WAGE (TGT SCIENCE)

PM SHRI KV HEBBAL, BENGALURU REGION

📍 Project Title:

"From Waste to Worth – A Student-Led Household Waste Management Program"

📅 Duration:

6 months project for NCSc (April to September 2025)

🌱 Objective:

To promote sustainable living practices through practical, home-based waste management.

To encourage students to apply 3Rs (Reduce, Reuse, Recycle) in daily life.

To utilize waste effectively for environmental and economic benefits.

🛠️ Activities Undertaken:

1. Dry Waste Segregation and Storage:

Milk packets, plastic bottles, newspapers, and glass jars were collected and stored systematically in a separate store room, managed by mothers or family elders.

These materials were sold later to scrap dealers, generating pocket money or household income.

2. Biodegradable Waste Utilization:

Kitchen waste (vegetable peels, food leftovers) was diverted from dustbins and used in:

Biogas production units installed in selected homes.

Vermicomposting pits in backyards or balconies.

3. Green Garden on the Terrace:

The organic compost and biogas slurry were used as manure for kitchen gardens on terraces.

Students helped grow seasonal vegetables like spinach, coriander, tomato, brinjal, etc.

4. Fruit Plantation Around Fencing:

Fruit-bearing plants like guava, papaya, pomegranate, lemon were planted along fences.

Students ensured that any remaining dust or dry waste was reused as filler in garden beds.

Impact of the Project:

Over 80% of participating students implemented the model at home.

Families experienced monthly savings on vegetables and saw a cleaner home environment.

Students became eco-conscious and self-reliant, actively involving their parents and siblings.

The project was a true demonstration of "Zero Waste Homes" led by young learners.

Recognition & Motivation:

Community Awareness Campaigns were held during PTMs and in morning assemblies.

Students shared before-and-after photos of their waste management efforts.

Some were even interviewed by local environmental bodies for their success stories.

Conclusion:

This initiative not only promoted eco-sensitivity but also fostered life skills, scientific temperament, and entrepreneurial thinking among students. It is a replicable, low-cost, and high-impact model that should be encouraged in all schools and communities.

29. DR. SRREJITH GOPALAN (TGT SCIENCE)

PM SHRI KV ARMY CANTT PANGODE, ERNAKULAM REGION

When I visited Lothal……

Way back in 1998, joined in KVS, when I visited Lothal, in Gujarat, near Ahmedabad, along with the students of Kendriya Vidyalaya, Dhrangadhra, Army Cantt, realised the levels of civilisation, prevailed in our country centuries back.

The nearby Archaeological Museum kept all materials mined and excavated from the area, with a large number of items used in the then society at that was truly beyond imagination. The development of wisdom and its direct application for the wellbeing of the society, utensils and its shapes with artistic skills in mouldings, were really exciting and even matching and competing with the present-day models with technological support.

The archaeological preservations with the in-land water transport systems and ancient boats

Carrying items to the deep route areas shows a well -planned water-transport system.

Moreover, the arrangement of rooms, interior space, house plans, sanitary system, drainage system excavated in the area is a proof of well managed sanitary system used by people living ingroups.

I, for the first time in life along with my students realised the indigenous richness of science and technology, which was the real-state output of our traditional heritage of culture and knowledge. Feel proud of our knowledge system.

30. ARTI PRASAD (TGT SCIENCE)

KV NAL, BENGALURU REGION

This incident is about in NCSC of 2011.

I was of member of the orientation team who had to coordinate for all projects of school at the regional level.

Science teachers of the Vidyalaya had to come up with one project each.

Thanks to all the teachers of the faculty, we manage to put up 6 projects for the regional level.

Out of the six projects two of them got selected for the national level.

To my utter disgust project in the senior category was disqualified during the scrutiny session because one of the members of the 5 students was over age 2 days.

I was served an advisory even though the project was not headed by me.

My project got selected in spite of that, I was in agony for having to face the backlash.

Over a period of time I came out strong and confident.

Now I check every detail two times and even cross check it, in order to rule out anything that would have got missed.

This incident really made me come up professionally.

31. SAREENA A (TGT SCIENCE)

PM SHRI KV2 NAVAL BASE, KOCHI, ERNAKULAM REGION

In order to promote awareness about the value and importance of millets, a Millet Exhibition was organized in the school. The event aimed to highlight the nutritional benefits, environmental sustainability, and traditional significance of millets. Students actively participated by displaying various millet-based dishes, charts, models, and informative posters. The exhibition not only helped in reviving interest in these ancient grains but also encouraged healthy eating habits and appreciation for locally grown, climate-resilient crops among students and visitors.

As part of the Science Circle initiative, one day each week is dedicated to student-led presentations, where learners explain and demonstrate science-related activities and experiments. This practice not only deepens their understanding of

scientific concepts but also builds confidence, enhances communication skills, and encourages curiosity-driven learning.

32. VIJAYALAKSHMI (TGT SCIENCE)

PM SHRI KV DHARWAD, BANGALORE REGION

The teachings practice is intended to improve student learning, engagement and classroom effectiveness. It encourages inquiry based learning and real-life application.

1. Hand on activities

Natural indicators like turmeric paper strips, hibiscus flower extract and litmus paper effectively help to determine acidic and basic nature of the household substances like lemon, salt, curd, tomato, baking soda, soap, toothpaste etc and their test with indicator and change observed by students in the class. Students are excited to see the colourful extract and vivid colours change and linked them to the concept learned in theory. It leads critical thinking and peer learning. They experience science felt like a game today.

2. Experiments on chemical reaction by class 10 students

Students show great enthusiasm and curiosity. They are excited by the fizzing of baking soda. They notice reddish deposit and colour change in iron copper sulphate experiments.They are amazed by heat and bubbles form. They experience handling real lab equipment was enjoyable and confidence booster. It enhances understanding of theory.

33. T V RAMANA MURTY (TGT SCIENCE)

PM SHRI KENDRIYA VIDYALAYA NO.2 NAUSENABAUGH, VISAKHAPATNAM, HYDERABAD REGION

Here is a simple and engaging story about a mother wasp building a clay house, ideal for children or classroom narration:

"The Clay House of Mother Wasps"

One day, in my flat corner of the almirah, there was a hardworking mother wasp. She was not like the buzzing wasps' people were afraid of—mother wasps were calm, clever, and very busy.

One bright morning, wasp flew around searching for the perfect place to build a home for her little ones. "It must be safe, strong, and cozy," she buzzed. After a long search, "This is the perfect place to make a clay house for its young ones in my house. The task completed in one week. I have observed every day and I made videos also. Its hard work is an example for the present children. She was a potter wasp—an artist who built tiny houses out of clay!

Flap! Flap! Buzz! She zipped down to the muddy puddle near the garden. Using her tiny mouth and legs, she carefully rolled up a little ball of wet clay. Then she flew back to the wall and started building. Clay ball after clay ball, she shaped a small pot—round like a pea, with a smooth hole in the middle. All day she worked, never stopping, even when the wind blew or the sun became hot.

Wasp had finished the perfect little clay house. She peeked inside proudly. Then, she laid a tiny egg in it and gently placed a soft caterpillar inside as food for her baby.

With care, she sealed the pot with more clay, whispering, "Sleep well, my little one. You will grow strong and fly free."

Over the next few days, wasp built more such pots, each one perfect and strong. When she was done, she flew off into the warm air, her mission completed. And so, proudly—a reminder of a mother's love, strength, and tireless work.

Moral:

Even the tiniest creatures show great love and care. Hard work, patience, and love can build the strongest homes.

34. CHANDRA SHEKHAR UPADHYAY (TGT SCIENCE)

PM SHRI KENDRIYA VIDYALAYA MYSURU, BANGALORE REGION

Story Title: "The Climbing Water and Curious Ashwini"

During a class on transpiration pull, I noticed Ashwini, a usually active girl, looking confused and restless. She muttered to her friend on 1st seat,

“Plants drink water? That’s just in books. I don’t believe it.”

I smiled and said,

“Let’s prove it tomorrow—without any book.”

The next day, I brought a glass of water, white rose, and blue ink. I dipped the rose's stem into the colored water and said,

“Let’s see what happens by the end of the day.”

Ashwini watched with mild interest.

By afternoon, she shouted,

“Sir! The flowers turned blue! The water climbed all the way up!”

I explained,

“That’s transpiration pull. Water moves up through the plant just like this ink—without any pump. Nature’s magic!”

Ashwini's eyes lit up.

From that moment, he stopped doubting science—he started exploring it.

DEMONSTRATION OF LESSONS BY PARTICIPANTS AT KV MYSURU

As part of the 3-day New Textbook Orientation Workshop, demonstration lessons were conducted at Kendriya Vidyalaya Mysuru, showcasing the effective implementation of the newly introduced science textbooks for Classes VI, VII, and VIII.

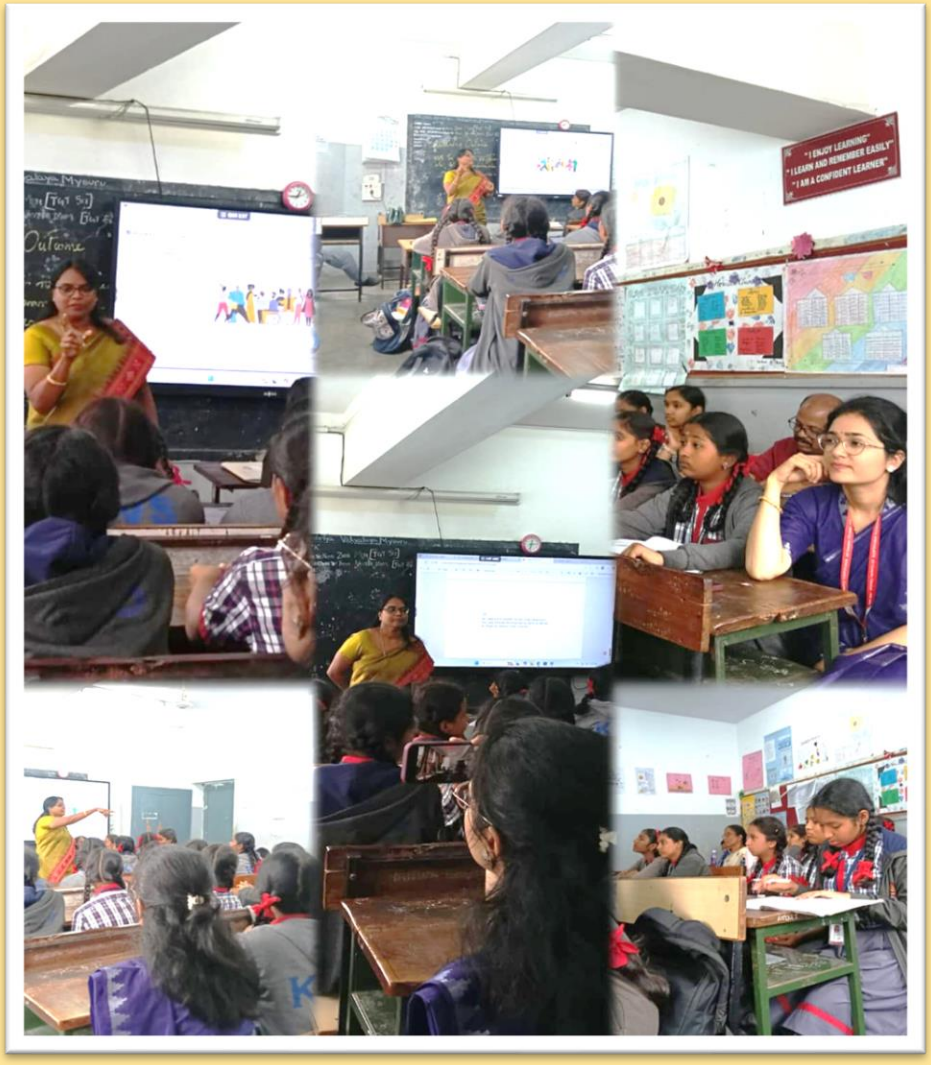
The demo lessons were conducted by participating teachers and were designed to align with the competency-based and activity-oriented approach of the new curriculum. Lessons were structured using real-life examples, making scientific concepts relatable and meaningful for the students.

Students from KV Mysuru enthusiastically participated in the sessions. Their engagement was evident through active questioning, peer collaboration, hands-on exploration, and reflective responses. The interactive classroom environment highlighted the importance of constructivist pedagogy, focusing on skill development, critical thinking, and conceptual understanding.

The demonstration lessons also served as a model for integrating learning outcomes, experiential learning strategies, and assessment for learning tools into everyday classroom practice.

This experience reinforced the potential of the new science textbooks to transform teaching-learning processes by making them more learner-centered, joyful, and rooted in everyday phenomena.


Let's do Lunch Audit

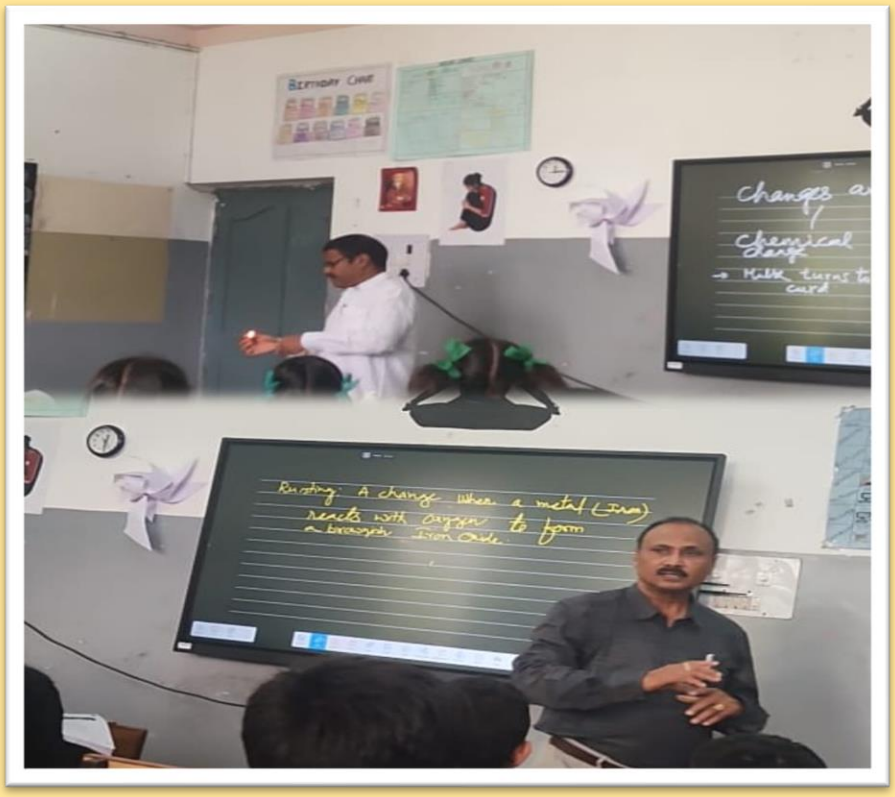

"I ENJOY LEARNING"
"I LEARN AND REMEMBER EASILY"
"I AM A CONFIDENT LEARNER"

SESSION 2

LEARNING: NEW APPROACHES IN SCIENCE.

COMPETENCY-BASED QUESTIONS, RUBRICS, PORTFOLIOS, PROJECTS, PEER AND SELF ASSESSMENT

-BY SMT S MANJULA, TGT SCIENCE, KV GOCHIBOWLI



The session focused on **innovative and student-centric approaches** to teaching and assessing science, aligned with the principles of **NEP 2020** and **competency-based education**.

Key Highlights:

- Emphasis on **Competency-Based Questions**
    - Questions that test **conceptual understanding**, **application**, **critical thinking**, and **real-life relevance**.
- Use of **Rubrics**
    - Clearly defined **assessment criteria** to evaluate students' work objectively and consistently.
    - Helps students understand expectations and improve performance.
- Inclusion of **Portfolios**
    - Collection of student work over time showing **growth**, **learning progress**, and **skills development**.
    - Encourages **reflection** and **ownership** of learning.
- Promotion of **Projects**
    - Hands-on activities that integrate science concepts with real-world problems.
    - Enhances **creativity**, **problem-solving**, and **collaboration skills**.
- **Peer and Self-Assessment**
    - Encourages students to **evaluate their own and peers' work** based on set criteria.

- Fosters **critical thinking**, **metacognition**, and **responsibility** for learning.

Conclusion:

The session encouraged teachers to move beyond traditional methods and adopt **diverse assessment strategies** that support **active learning**, **student engagement**, and **deeper understanding** in science.

SESSION 3

USE OF TECHNOLOGY IN SCIENCE TEACHING

-BY MR. DINESH KUMAR, TRAINING ASSOCIATE (PHYSICS), ZIET MYSORE

The session highlighted how technology enhances science teaching by making it more interactive, student-centered, and aligned with 21st-century skills. Teachers were introduced to a variety of digital tools and platforms that support conceptual clarity, active learning, and effective assessment.

Key Tools and Their Educational Use:

- ePathshala
  - A digital platform by NCERT offering free access to textbooks, audio-visual resources, and teacher training modules.
  - Supports blended learning and resource accessibility for both teachers and students.
- PhET Simulations (by University of Colorado Boulder)

- Provides interactive simulations for physics, chemistry, biology, and math.
- Helps in visualizing abstract and complex scientific phenomena in a virtual, experiment-based environment.

- Plickers
  - A formative assessment tool that allows teachers to conduct quick, paperless quizzes.
  - Enables real-time feedback without the need for student devices.
- QR Codes in Textbooks
  - Easy access to enrichment content, videos, and activities linked to the topics in NCERT textbooks.
- **Other Useful Tools:**
  - Kahoot, Quizizz, Google Forms – for engaging quizzes and surveys.
  - YouTube Edu Channels & Science Apps – for demonstrations, experiments, and animated content.
  - Virtual Labs (e.g., Amrita, IIT) – for conducting science experiments digitally.

Conclusion:

The effective use of technology makes science teaching engaging, inclusive, and experiential. It promotes curiosity, self-paced learning, and prepares learners to connect scientific knowledge with real-life applications.

ASSESSMENT OF PARTICIPANTS

At the end of the 3-day New Textbook Orientation Workshop, an assessment was conducted to evaluate the understanding and learning of the participants. A post-test was administered through a Google Form, consisting of 25 multiple-choice questions carrying one mark each, totaling 25 marks.

All participants enthusiastically took part in the assessment, showcasing their active engagement and conceptual clarity gained during the sessions. The test served as a reflective tool to reinforce the key takeaways of the workshop and validate the effectiveness of the training.

The overall performance of participants was commendable, with most scoring well, indicating a strong grasp of the competency-based approach, activity-based learning, and the implementation strategies of the new science textbooks.

ACTIVITY CORNER:

GROUP 1

1. MENAKA DEVI R ,KV DRDO, BENGALURU
2. VIJAYALAKSHMI G, PM SHRI KV DHARWAD, BENGALURU
3. SEEMA SRIVASTAVA, PM SHRI KV NO.2 MADURAI, CHENNAI
4. SANDIPTA PAUL, PM SHRI KV HVF AVADI, CHENNAI
5. P SUCHITRA, PM SHRI KV KANJIKODE, ERNAKULAM
6. LALY MATHEW, PM SHRI KV KOLLAM, ERNAKULAM
7. K SAHITHYA, PM SHRI KV MACHILIPATNAM, HYDERABAD
8. SANDHYA SHARMA, PM SHRI KV NELLORE, HYDERABAD

GROUP 2

1. ARTI PRASAD, KV NAL, BENGALURU
2. CHANDRA SHEKHAR UPADHYAY, PM SHRI KV MYSURU, BENGALURU
3. ANJALI YADAV, KV IIT CHENNAI
4. SHUBHAM CHOUDHARY, KV GOLDEN ROCK TRICHY, CHENNAI
5. DR SREEJITH GOPALAN, PM SHRI KV PANGODE, ERNAKULAM
6. SAREENA A, PM SHRI KV 2 NAVAL BASE KOCHI, ERNAKULAM
7. T BHANU PRASAD, PM SHRI KV SVP NPA SHIVARAMPALLI, HYDERABAD
8. GVK KAMESWARA RAO, PM SHRI KV NO.1 NAUSENABAUGH, HYDERABAD

GROUP 3

1. KOMAL SHARMA, PM SHRI KV ASC CENTRE(S), BENGALURU
2. NEETA WAGE, PM SHRI KV HEBBAL, BENGALURU
3. DR SUSHMA NASHINE, KV NO.2 KALPAKKAM, CHENNAI
4. JYOTI PANDEY, PM SHRI KV NO.2 AFS TAMBARAM, CHENNAI
5. PADMAREKHA A K, PM SHRI KV POTTAM SHIFT-2, ERNAKULAM
6. SUDHA TV, PM SHRI KV INS ZAMORINEZHIMALA, ERNAKULAM
7. KIRAN KUMAR B, NALLAPADU GUNTUR SHIFT-2, HYDERABAD
8. NEHA SINGH, PM SHRI KV NO.1 GOLCONDA, HYDERABAD

GROUP 4

1. RAKHI GHOSH, PM SHRI KV NO.1 AFS JALAHALLI(W), BENGALURU
2. MUKTA KUMARI, PM SHRI KV MALLESWARAM SHIFT-1, BENGALURU
3. GANAPATHI, KV AFS BIDAR, BENGALURU
4. SHALINI SINGH, PM SHRI KV AFS SULUR, CHENNAI
5. NOBLE B SEBASTIAN, KV THALASSERY, ERNAKULAM
6. LAKSHMI VENUGOPAL, PM SHRI KV RUBBER BOARD KOTTAYAM, ERNAKULAM
7. ALKA RANI MISHRA, KV STEEL PLANT VISHAKHAPATNAM, HYDERABAD
8. S JAYA RANI, KV TIRUMALAGIRI, HYDERABAD

GROUP 5

1. SHASHANK N RAO, PM SHRI KV NO.2 BELAGAVI CANTT, BENGALURU
2. MANITA BHARTI, PM SHRI KV CRPF AVADI, CHENNAI
3. PRIYALI PRIYADARSHINI,PM SHRI KV MINIAMBAKAM, CHENNAI
4. RENJINI S, PM SHRI KV NO.III PORT TRUST KOCHI, ERNAKULAM
5. DEEPA KUMARI G, PM SHRI KV THRISSUR, ERNAKULAM
6. DORAKUMAR REDDY, PM SHRI KV ONGOLE, HYDERABAD
7. TV RAMANA MURTY, KV NO.2 NAUSENABAUGH, HYDERABAD