

RANGOMETRIC ACTIVITY

1. Title of the Best Practice

Rangometric Activity – Learning Mathematics through Colourful, Hands-on Geometry

2. Kendriya Vidyalaya

- Name of KV: Kendriya Vidyalaya No. 2, NTPC, Korba
- Region: Raipur Region

3. Name and Designation of the Contributor(s)

Vidya Kashyap – Primary Teacher

4. Target Group

- Class(es): Class 4
- Subject(s): Mathematics
- Number of students benefited: 40 students

5. Theme/Area

NEP 2020 theme: Experiential and activity-based learning, competency-based education, joyful learning, creativity and development of mathematical thinking.

6. Context/Need

Young learners often find geometrical concepts abstract when taught only through textbooks and diagrams. The Rangometric Activity provides a colourful, hands-on learning experience through which students identify, compare, combine and create geometric shapes. It makes mathematics joyful, improves spatial understanding and encourages learning by doing.

7. Description of the Practice

- Objectives
- To develop understanding of basic geometrical shapes and their properties.
- To strengthen spatial reasoning, observation and visualisation skills.
- To encourage creativity and mathematical communication.
- To make learning mathematics joyful, experiential and learner-centred.
- To promote collaboration, problem-solving and fine-motor skills.
- Implementation process (step-wise)
- The teacher introduces basic shapes such as circle, triangle, square and rectangle through real-life examples.
- Colourful rangometric/geometric pieces are distributed among students individually or in small groups.
- Students observe, sort, name and compare the pieces according to shape, size and colour.
- Students combine different pieces to form new figures, patterns, objects and designs.
- Each group explains the figure or pattern created and identifies the shapes used.
- The teacher asks competency-based questions and encourages students to find multiple ways of making the same figure.
- Students display their creations and participate in peer discussion and appreciation.
- A short oral/practical assessment is conducted through shape identification, classification and figure-making tasks.
- Resources/materials used

Rangometric/geometric pieces, coloured paper or foam sheets, shape cards, worksheets, chart paper, glue, pencils/crayons, classroom objects and locally available low-cost/no-cost materials.

- Duration/Frequency

30–40 minutes per activity; conducted periodically as part of Mathematics activity-based and experiential learning.

8. Innovation

The practice converts abstract geometry into a creative, tactile and visual experience. Instead of only drawing shapes, students manipulate colourful pieces, construct figures, explain their thinking and explore more than one possible solution. The same low-cost material can be reused for shape recognition, patterns, symmetry, measurement and problem-solving activities.

9. Outcomes/Impact

- Evidence of improvement in student learning, engagement, participation, or teacher practices.

Students show greater interest and active participation in mathematics. They become more confident in identifying and describing shapes, composing figures and explaining their ideas. The activity also enables the teacher to observe learning through practical performance rather than relying only on written work.

- Quantitative/qualitative evidence, wherever available.

Qualitative evidence includes active participation, improved confidence in shape identification, collaborative work and creative construction of figures. A simple pre-activity and post-activity checklist/worksheet can be used to record improvement.

10. Scalability and Replicability

The activity can be easily adopted by other Kendriya Vidyalayas using low-cost or locally available materials. Teachers can adapt the tasks according to class level and integrate them with geometry, patterns, symmetry, measurement and art-integrated learning.

11. Supporting Documents

- Photographs of the Rangometric Activity and students' creations
- Lesson plan/activity plan and worksheets
- Student work samples
- Assessment data/feedback
- Links to videos or digital resources, if applicable

12. Certification

The Principal of the Kendriya Vidyalaya certifies that the practice has been implemented in the school and the information furnished is authentic.

Signature of the Principal: _____

Date: _____

Supporting Photographs – Rangometric Activity

प्रिन्सिपल / PRINCIPAL,
कन्द्रीय विद्यालय, एन.टी.पी.सी.
ENDRIYA VIDYALAYA, N.T.P.C
जमनीपाली, कोरबा (छ. ग.) 495 450
JAMNIPALI, KORBA (C. G.) 495 450



rangometry activity



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Competency-Based Lesson Plan

Side Heading	3 Points
Learning Outcomes	- Identify and name common geometric shapes and patterns. - Create simple rangometric designs using shapes. - Explain the pattern or arrangement used in their design.
Competencies	- Recognises, compares and classifies geometric shapes. - Applies geometric concepts in a hands-on activity. - Uses reasoning and creativity to construct patterns.
Curricular Goal	- Develop spatial and geometric understanding. - Strengthen mathematical thinking and problem-solving. - Encourage creativity through activity-based learning.
Integration with Other Subjects	- Art & Craft – create and colour geometric designs. - EVS – identify shapes and patterns in surroundings. - Language – describe the design orally or in writing.
Pedagogical Strategies	- Demonstration followed by hands-on practice. - Questioning and guided discovery. - Pair/group work and peer learning.
Assessment	- Observe students during the activity using a checklist. - Ask short competency-based oral questions. - Assess the completed design for accuracy and pattern.
Real-Life Application	- Identify shapes in tiles, windows and buildings. - Observe patterns in rangoli, clothes and artwork. - Use shapes to create simple decorative designs.
21st Century Skills	- Creativity and innovation. - Critical thinking and problem-solving. - Communication and collaboration.
Planning for Remedial Teaching	- Use shape cards for recognition and matching. - Provide tracing and simple pattern-completion tasks. - Give individual support and peer assistance.
Resources	- Shape cards, coloured paper and crayons. - Ruler, pencil and worksheets. - Classroom objects with geometric shapes.
Home Work	- Find five geometric shapes at home. - Draw any three patterns seen around you. - Create one simple geometric design.
Competency-Based Task	- Create a design using at least three geometric shapes. - Repeat or extend a given pattern correctly. - Explain the shapes and pattern used in the design.