

MATHEMATICS ON A PLASTIC MAT

These are 'lesson notes' for a professional development session dated 5th September 1993. Not the earliest workshop I presented with this resource but the earliest record I can find searching through my records in September 2024. These notes fed into the 1993 December Conference workshop and article.

Content: Number, Algebra, Space, Chance & Data

Equipment:

- Plastic mat, 3.5m x 7.5m and appropriate interior or exterior space
- Calculators
- Large cards (about A4) - see tasks below
- Normal selection of classroom materials to model each activity
- Knicker elastic

Introduction

A mat like this is easily made from shade cloth. It is sturdy and can be used inside or out. It provides many opportunities for whole body learning in mathematics. MCTP Activity Bank, Volume 1 provides an excellent rationale for including this approach as a learning strategy. The reference is pages 185 -188.

Tasks

1. How Would You Use It?

Buzz groups to think out ideas. Share results.

2. Highest Number

Cards: Four sets of 0 - 9 (one up each side for reference and one for each team), two sets of Hundreds, Tens and Ones

Set up the mat with 0 - 9 reference cards along each side and place value cards for each team.

Give each team their card pack and ask them to take turns to select a card. One member of the team is going to stand in a column on the mat, but the team has to decide which column. The aim after three card selections is to display the highest number.

Variations

a) Display the lowest number.

b) Play with one card set between two teams.

2. Human Bingo

Cards: One for each possible product obtained by rolling two dice.

Divide the group into two sets of sixteen players. The players sit as a group in a 4 x 4 array.

Each player is randomly given one of the 36 product cards.

The teacher rolls the dice and calls out the numbers. Teams calculate the product and decide which of their members will stand. The aim is to make four in a row.

Variations

a) Use products made from all possibilities of drawing a card from each of two packs numbered 1 - 9.

b) See Bingo Bodies, MCTP Activity Bank, Volume 1, page 195.

3. Human Computer

Cards: One set of 0 - 9 and one set of Hundreds, Tens and Ones.

Set up as for one team in Highest Number. A person stands on each zero. Their task is to walk to the appropriate place in their column during the activity. Watchers have calculators to check.

Make up additions and subtractions as appropriate to illustrate the place value affect.

Variations

a) Ask children to model the game.

4. Patterns In Tables

Cards: Two sets of 0 - 9

This task requires 18 players who each occupy one cell in the ones and the tens columns. They stand up when their digit is needed for a number.

Choose a constant counting group number and ask those seated to take turns finding the next ones to stand up, e.g., count by fives and the five person and the zero person in the ones column will be the only ones to stand up.

Variations

a) Count backwards in groups.

5. Recording Data

Cards: Category cards appropriate to the chosen data of interest.

Choose an appropriate task, e.g., base it on the main course selection at breakfast.

Variation

a) Ask the children to represent the data another way which will fit on their table.

6. 'Melway' Location

Cards: One set of a - f and one set of 0 - 9

Ask the group to make up an activity.

7. Co-ordinate Location

Cards: One set 0 - 6 and another 0 - 9

Set out the cards as for a standard cartesian system.

Explore the difference it make to walk up the lines. Try tasks like locating (2·5, 4·5)

8. Walk My Rule

Cards: As for Co-ordinate Location

Stand one player on each X - axis number. They become that number and step out the appropriate number of units according to the rule offered by the teacher.

Emphasise predicting what the finishing point will look like.

Explore the resulting cartesian co-ordinates if appropriate.

Variation

Set up a straight line and ask the group to work out the rule. Teams could do this.

9. Human Geoboard

Sixteen people kneel as the pins of a human geoboard. Use knicker elastic as the rubber bands. What would you use this for?

10. Other Ideas

Hall Crawl - 6, 7, 8 and the team goes backwards.

Exploring Noughts and Crosses - what happens if we add one more row?

Garden Beds - use people to make the pathway.

Human Spreadsheet?