AUTHENTIC TASK

STATEMENT OF THE PROBLEM

Each class or small group within a class, was asked to submit a plan for a series of 1-100 grids to be permanently displayed somewhere in the school. The grids should show multiples and/or other information, and be of practical use! The location, size, type of grids and usefulness was to be justified, diagrams to be drawn to scale and all costs to be shown (paint, string to mark out, templates for numbers etc).

For further information see: Kingston High School Presentation

A USEFUL GRID – THE STORY

The Planning Stage

The placement of 1-100 grids around the school so that they could be used in a practical way invoked much enthusiastic discussion in classrooms. The object was for students to become aware of the ways in which the grids could be used to help them with their mental computation skills through an exploration of the patterns within the grid. (Further explorations into seeking and describing generalisations were undertaken by some students.)

To introduce the students to the uses of the 1-100 grid, a unit of work exploring the many patterns in the grid was undertaken by the project classes. Classes were then given the task. A standard form/worksheet was not provided, keeping the presentation investigation very open.

Doing the Task

The range of ideas for WHERE the grids could be placed and HOW they could be used was staggering! Students gathered measuring tapes and trundle wheels and set off to find what they deemed to be suitable spaces. Back in the classroom, they recorded their measurements, drew scale diagrams (ratio), consulted catalogues and made phone calls to check on prices, and performed necessary calculations (see work sample 1).

Ideas included painting grids on the footpath in the bus area, in the quadrangle, on walls around the school, even on the urinals in the boys' toilets!

AUTHENTIC TASK

After the Task

We eventually decided on a plan using cobblestones in a courtyard outside the Mathematics area. We employed tradesmen (related to a student in the school) to install 3 of the grids, each measuring 3m × 3m (see figure 2). Students measured out and made stencils and painted numbers on the grid. They came up with new activities, such as Multiples Twister and Musical Squares (see figure 3 and figure 4). Brightly coloured beanbags were made from scraps of felt and used as counters for games. Grade 9 and 10 students became involved and led lunch time sessions on the grids. A workshop was organised for staff to become familiar with how the grids could be used and many classes have since taken on excellent investigations involving the grids.

A poster competition to show multiples patterns was also organised and the chosen entry was reproduced in colour, laminated and distributed to all Grade 7 and 8 students for individual use.

Work sample 1: Calculating Cost

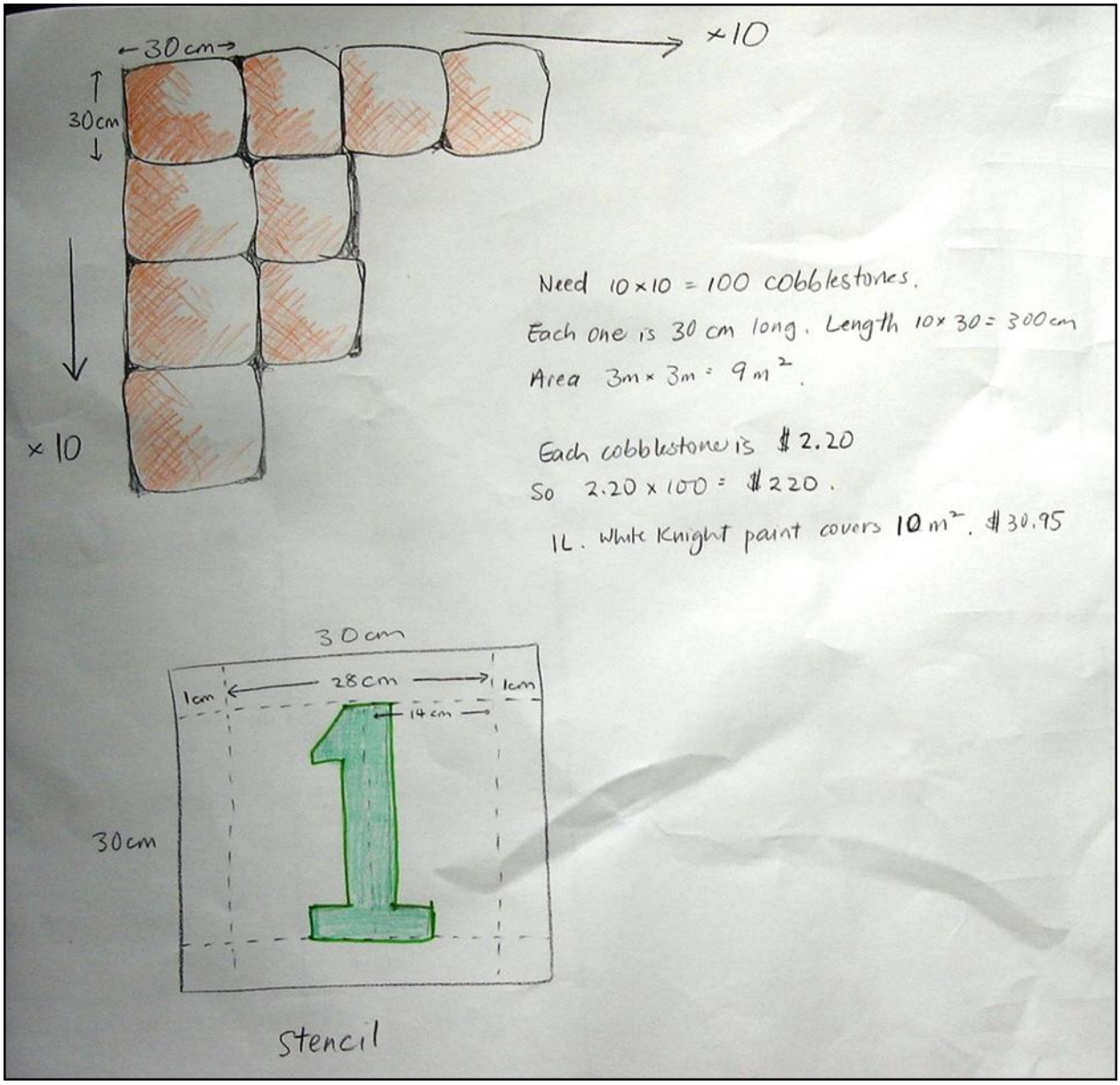

Figure 2: The Grid.

Figure 3: Number Twister.

Figure 4: Playing Games.