Trade

Creative interiors

Related outcomes

M 2.3: A student estimates, compares, measures and records the area of surfaces using square metres and square centimetres.

N 2.4 (a): A student approximates, calculates and represents solutions to addition and subtraction problems involving two-digit numbers, using a variety of informal strategies including mental, written and calculator methods.

N 2.4 (b): A student approximates, calculates and represents solutions to multiplication and division problems by using a variety of informal strategies.

N 2.5: A student uses number skills to solve real life problems (whole numbers only).

S 2.5: A student conducts simple surveys, organising, displaying and interpreting them using column graphs.

WM 2.6: A student uses available technology to help in the solution of mathematical problems.

VA 5: A student demonstrates a willingness to work cooperatively with others and to value the contributions of others.

Possible indicators

A student can:

- construct a square metre and use it to measure various areas
- estimate the number of square metres in a given area
- complete addition and multiplication calculations
- make an appropriate choice between addition and multiplication to solve problems
- use a calculator when appropriate
- record results using tally marks.

Syllabus links

Working mathematically	Questioning, Communicating, Problem solving (pp 20-37)
Space	Graphs 3
Measurement	Area 7
Number	Addition 6, 7 Multiplication 9 Money 6

Teaching activity

1. Ask students whether or not their families have painted or carpeted a room in their house recently. What factors were considered before painting or carpeting? (For example, how did they know how much paint or carpet to buy? Was any additional equipment required?)

2. Students elect to investigate the costs associated with either (a) carpeting the floor, or (b) painting the walls of the classroom. Groups of four to five students are then formed.

3. Ask students how they would determine the area to be carpeted or painted.

4. As a class, investigate the concept of the square metre. This could be introduced by asking students to fold or overlay newspaper on an area which is close in size to a square metre. This is followed by formally measuring one metre by one metre with a ruler. Students check their estimations with the actual size.They then construct a square metre from newspaper.

5. Students who nominated to investigate the carpeting of the floor use this square metre of paper to estimate, then measure, the area of the classroom floor.

6. Students who nominated to investigate the painting of the walls suggest strategies that they would use to calculate its area. Can they use any of the information obtained from the group measuring the floor? It may be necessary to provide students with the height of the classroom walls.

7. In their selected groups, students collect brochures related to paints and carpets.

8. With a set budget, students investigate:

   • the cost of various carpets per square metre

   • the rating of the carpets (e.g. heavy duty)

   • the type of paint required (e.g. gloss or matt, indoor or outdoor)

   • the cost of various paints

   • the best value for money for the paint, based on the quantity required.

   It may be necessary to contact hardware stores or carpet retailers for assistance.

9. In their groups, students list the products and costs required for their task. Promote group discussion regarding the rationale for their choice of product.

10. In groups, students outline to the class their proposals for painting or carpeting the classroom. Rationale, costs and other factors will need to be addressed and checked by class members.

11. As a class, students vote for their preferred paint and carpet. This information is recorded on a tally graph.

Language

per square metre, litre, metre, area, length, breadth, total, costs