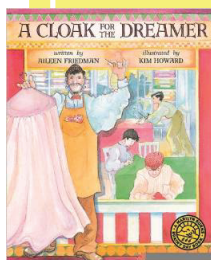


Take This

A quilt

Read:
A Cloak for the Dreamer
By Aileen Friedman



Years 7-8



GEOMETRY AND MEASUREMENT

Students explore shapes, tessellation, transformations and **precisely measure** lengths (using cm and mm) and angles (degrees).

Read *Cloak for the Dreamer*. Together list shapes that tessellate and together suggest why this is so.

Make available (coloured) paper, pencils, glue, scissors, rulers and protractors. Pose the problem: 'Work in pairs, using materials available and your **measurement skills**, to show **how and why** the identified shapes tessellate.'

Discuss results, having students model and explain *the sum of interior angles* for rectangles (including squares), other quadrilaterals (parallelogram, rhombus), triangles (including right angle isosceles, equilateral) and hexagons, and *the sum of angles around a point*.

GEOMETRY AND MEASUREMENT

Using this information, have students *design* a panel of specified size (eg. 20cm^2), made up of tessellating shapes, and considering patterns and colours.

Make fabric, thread and needles available. Model how to cut precisely measured geometric shapes, *allowing for seams*, and show how to piece together.

Ref. <http://www.nzmaths.co.nz/resource/quilts>

STATISTICAL INVESTIGATIONS AND LITERACY

Students plan an investigation using the statistical enquiry cycle to find out about the students'/school community's ideas for honouring a person/event.

Discuss and decide on the appropriate variables eg. type of memorial (eg. quilt, tile wall, photo book, garden plot etc), gender, year level, how costs should be covered (eg. each family contribute \$5/ PTA fundraiser, gold coin trail, donations box in the foyer etc.) , location of memorial (eg. school foyer, school hall, outside entrance, community hall etc.) etc.

Gather (using data squares or survey) and sort the data, and present these using different displays. Compare the distributions visually and communicate findings appropriately. Eg. A quilt is the choice of 70% or year 8 girls, and of 41% of the year 8 boys. 75% of year 8 students want to raise funds using a gold coin trail etc.

Objectively evaluate the investigation process, and the findings. A decision may need to be made about which data to aggregate

If the data are gathered from a large school-wide population, and patterns for particular cohorts are strong, these cohorts may work on their own memorial projects.

STATISTICAL INVESTIGATIONS AND LITERACY

From the findings, make a recommendations to individual teachers, the BoT, PTA, or principal as appropriate.

Critique each other's presentations, discuss validity of results, identify appropriate displays and conclusions, and suggest alternative methods or displays.

NUMBER AND ALGEBRA

As part of ongoing numeracy learning, students apply a range of advanced multiplicative and proportional strategies and reasoning to: The management of donations and costs/expenses of material procurement, and a timeline/timetable for 'production'.

For example, students research, prepare and manage:

- A budget for the expected costs of project materials
- A balance sheet of income (from fundraiser/donations) and expenses (money in/money out/balance).
- A project report to the BoT.

The construction task: total/percentage amount (area: cm^2/m^2) of particular fabrics required for/used on the completed panel/quilt, sum of interior angles, angles around a point, explanations of patterns relationships between geometric shapes (eg. use interior angles of triangle to explain interior angles of hexagon).

Example

Students in Room X collaborate to create small panels for a memorial patchwork quilt using fabrics of appropriate colours. They will add pictorial applique features, once the patchwork base is complete.