Module 7: Developing the personal maths skills of teachers and assessors

Developmental task

Algebra

Personal context

Quilting patterns

Quilting is enjoying a revival and the designs can be very complex. All quilting starts from a single patch and the pattern is built up around that patch.

In this investigation you will be considering the number of patch pieces required for quilts based on hexagons.

You start with 1 hexagonal patch:

Round 1 - 1 patch
Round 2 - 7 patches

Carry on the investigation to determine the total number of patches required for the first five rounds.

You decide to make up packs of patches which will be sufficient for different-sized quilts. Determine the relationship between the number of rounds and the total number of patches required. Check the relationship satisfies your findings. Use the relationship to determine how many patches you would need for a quilt which has 20 rounds of this pattern.

Continue this investigation using different starting shapes. Present your findings in a suitable format.

Why may an online quilting supplies company be interested in your findings? What other factors may they need to take into consideration?