



CHANGING PATTERNS

You finish your dome and decide to check out Nora's again.

It looks pretty cozy. There's a beanbag chair (made from one of your socks), a table (your jewelry box) and a bed (your lost sneaker!). Nora is arranging squares of fabric to cover the bed.

"What's up?"

"I'm making a quilt for my bed."

"For my sneaker, you mean."

She ignores you and lays out the squares in a pattern.

"I just can't decide which pattern looks best."



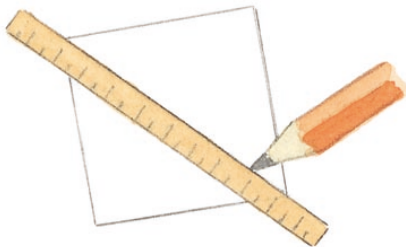
FALLING INTO A PATTERN

Here's how to help Nora decide on a quilt pattern.

You'll need:

- ▶ a ruler and pencil
- ▶ 16 squares of white cardboard 5 cm x 5 cm (2 in. x 2 in.)
- ▶ a thick-tipped black felt marker
- ▶ other colored markers (optional)

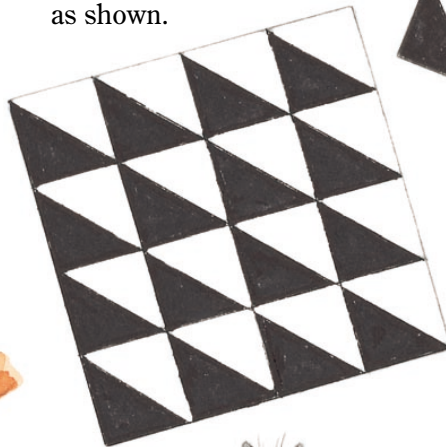
1. Use the ruler and pencil to draw a diagonal line across each square so that it is made up of two triangles.



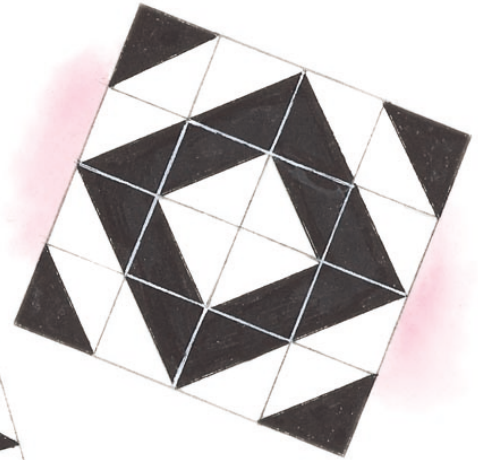
2. Color one triangle on each square black.



3. Arrange the squares as shown.



4. By turning the individual squares, can you make this pattern?



5. How many more patterns can you create by turning the squares?

6. What about tipping the squares onto their corners and adding some different-colored triangles? Can you make a bigger quilt?



Real-life math

Patterns are fun — but they can also be shortcuts, as every computer programmer knows. Colleen Wtorek is a computer programmer who writes the instructions that tell computers what to do. Each instruction, or code, is like a piece of a pattern. Once she has written and tested a piece of code,

Colleen uses it in different combinations to make new instructions, just as you used the same squares to make different patterns. "Writing a computer program is a lot like putting together a puzzle, and reusing patterns of code helps get the job done quickly," says Colleen.