MATH EXTENSION—PROBLEM OF THE WEEK . . . .
INVESTIGATION 1: LEVERS

Rand and Amy want to make lever arms for their class to do some lever experiments. Read the descriptions of the lever arms they want to make, and figure out what length of board they need to buy and how they should cut it up to make the lever arms.

- They want to make 18 lever arms.
- They are making equal numbers of lever arms of three sizes: short, medium, and long.
- All the lever arms are 2 cm wide.
- The long levers are three times longer than the short levers.
- The medium levers are half as long as the lengths of the long and short levers added together.
- The short lever is six times longer than it is wide.
- The board is 12 cm wide.

What length of board should they buy?

How should they cut the board?