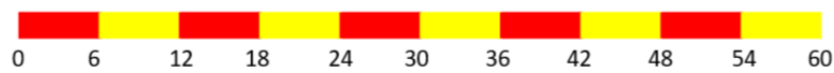


Year 4 Unit 5: Securing multiplication facts (1 week)

Before you start...

- What facts can pupils fluently recall?
- What patterns and connections between multiplication tables are pupils aware of?

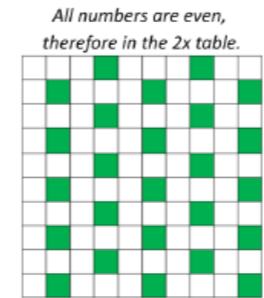
6x multiplication table



12x multiplication table



- ? What do you notice?
- ? What's the same?
- ? Can you see any patterns?
- ? What's different?



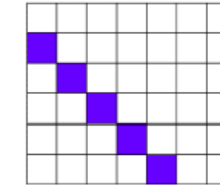
The ones digit follows the pattern 4, 8, 2, 6, 0.

Every even number is in the 2x table

Every other number is in the 8x table.

Video: Patterns within and between multiplication tables

It could be a grid with seven columns, showing the eight times table:



The times table it represents cannot be x1, x2, x3, x4 or x5, because there is a row of five blank squares.

Exploring patterns within and between multiplication tables

- L1: Identify multiplication patterns
- L2: Predict and identify multiplication patterns

Use a variety of models to explore relationships and patterns across multiplication tables pupils know, making connections *within* and *between* these multiplication tables.

- ? Which patterns will you encourage pupils to draw out within multiplication tables? How about between multiplication tables? What's the same and what's different about these patterns?
- ? How will you encourage pupils to make connections between the number of squares in a grid row and the patterns created when highlighting different multiples on the grid?

Models in mind

This [article](#) considers how models can be used as tools for reasoning with.

The pattern seeking activities from L1-2 could be extended into another lesson using the consolidation lesson

The consolidation lesson could be used to develop a depth of understanding in another multiplication table.

Deepening understanding of multiples of seven and nine

- L3: Multiples of 9
- L4: Multiples of 7

Build upon the models used in L1-L2 to focus on the lesser known seven and nine times tables. Encourage pupils to create their own meaningful concrete, pictorial and abstract representations.

- ? What multiplicative models are pupils less familiar with? How will you model these?
- ? What connections will pupils make between their models? What's the same and what's different about the models?

Video: Multiplication and division – Models and images

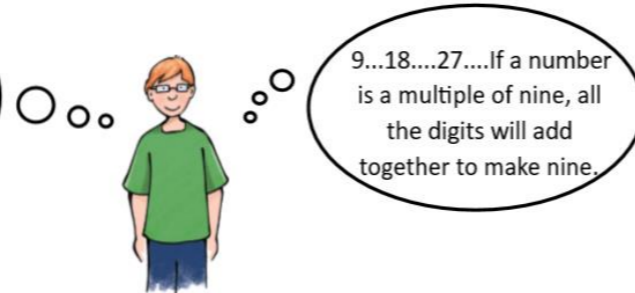
Video: Multiplication with a counting stick - Part 1

Video: Multiplication with a counting stick - Part 2

Also, see this [article](#).

Let's Explore

$$\begin{aligned} 1 + 8 &= 9 \\ 2 + 7 &= 9 \\ 3 + 6 &= 9 \end{aligned}$$



? Is Greg correct always, sometimes or never? Find examples to support your answer.

? What's the same? What's different?

