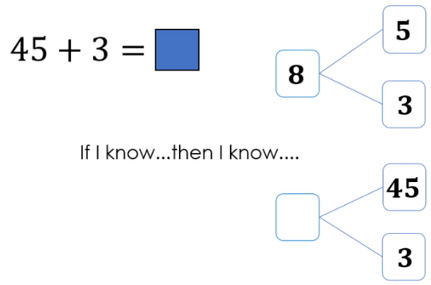
Year 1 Unit 13: Addition and subtraction within 100 (2 weeks)

Video: *The part whole model*

Video: *The 'Make Ten' strategy*

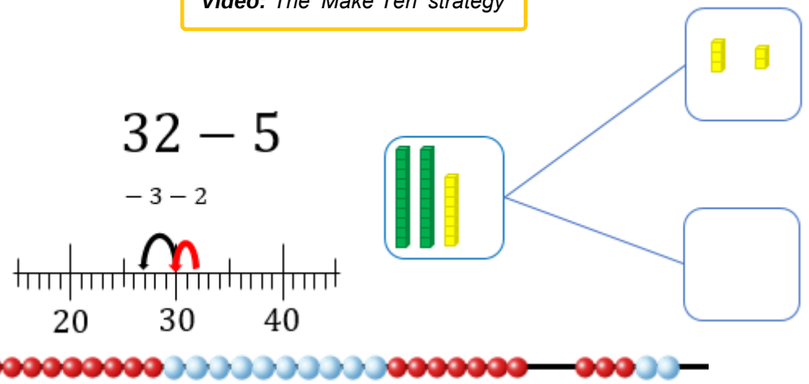
Before you start…

- *How familiar are pupils with the addition and subtraction structures from previous units?*
- *To what extent are pupils confident with previously taught strategies e.g. 'Make ten', partitioning and using number bonds?*
- *How could you use this unit to consolidate pupils' understanding of place value?*



Language structures

The phrase 'If I know, then I know…' is a key language structure across the unit, used as a linguistic frame to support development of connections and flexibility within key facts. Take every opportunity to model and rehearse this with pupils.



Consolidating addition and subtraction strategies

L1 Apply number bond knowledge to add and subtract
L2 Add a two-digit number and ones
L3 Subtract a two-digit number and ones

Pupils begin the unit by applying their number bond knowledge within 20 to add and subtract, using the inverse to check. They move on to explore mental strategies to add and subtract a two-digit number and ones with no regrouping. Pupils use bead strings, number lines and Dienes to explore the underlying structure of this, building on their knowledge in Lesson 3 to solve to solve missing number problems.

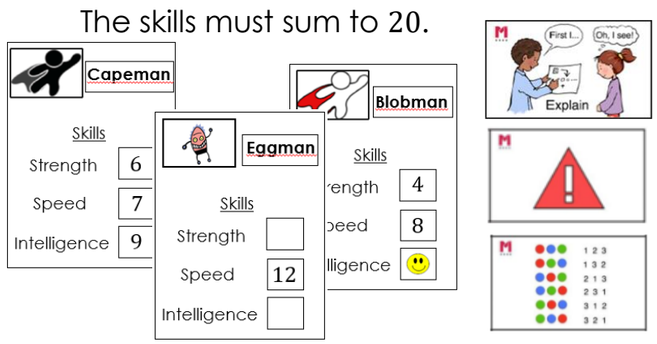
- ? *What connections can be made between addition and subtraction and using known facts?*
- ? *What opportunities will you provide for pupils to see the connections you have identified?*

Adding and subtracting with regrouping

L4 Add a two-digit number and ones with regrouping
L5 Subtract a two-digit number and ones with regrouping

Pupils revisit the 'Make ten' strategy as an efficient strategy for adding and subtracting ones to a two-digit number, which would otherwise require regrouping. Pupils use Dienes on a part-whole model and are exposed to the bead string and number line to support their understanding of the 'make ten' strategy.

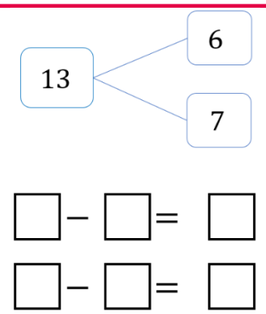
- ? *What opportunities will you provide for pupils to move between representations and to create their own representations? Will the use of representations need to be scaffolded or constrained for some of your pupils?*
- ? *What thinking do you want pupils to engage with and what questions and prompts can you ask/provide for them to do so?*



Place Value and Developing Calculation Processes

This article explores the importance of pupils' understanding of place value and how this can support the development of fluency during the calculation process.

Video: *The importance of =*



Lesson 10 is a consolidation lesson. You may wish to use this before Lesson 6 to ensure pupils are secure with the previous strategies, before applying their knowledge to solve problems in context.

Applying addition and subtraction in context

L8 & 9 Solve problems in context

Pupils will be provided with many opportunities to practise their addition and subtraction strategies in a meaningful and purposeful context across both Lesson 8 and 9. The focus should be on consolidating and reinforcing strategies that pupils have explored throughout Year 1.

- ? *How and when will you support learners to refine informal language and move towards formal mathematical language?*
- ? *What might be the 'difficulty points' in the mathematics across these lessons? How can you instil resilience in order for pupils to deal with this difficulty?*

Number Talk

This video explores the importance of exposing students to different strategies and talk which focuses on the process pupils go through rather than the solution.

Exploring addition and subtraction

L6 Solve part-whole problems
L7 Investigate addition and subtraction

Pupils will investigate and solve addition and subtraction word problems using part-whole models and strategies of their choice. The focus should be on ensuring pupils are using part-whole language and manipulatives to justify how their abstract equations represent the word problem in context.

- ? *What questions / prompts / responses will you use to facilitate classroom dialogue?*
- ? *Which representations are your pupils able to use as tools for thinking? To what extent? How do you know?*