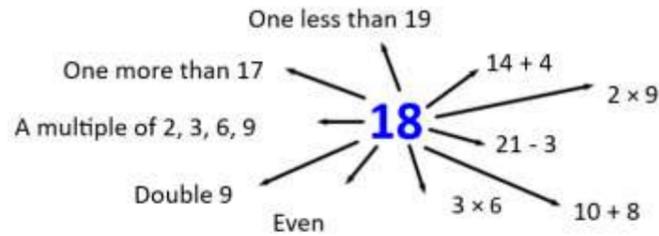
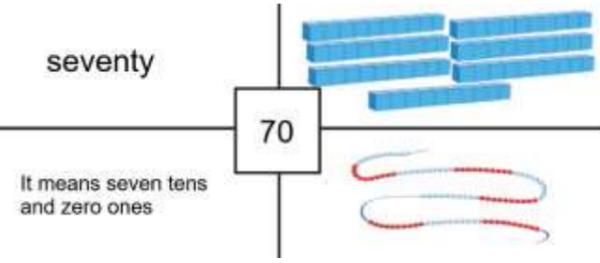


Year 3 Unit 1: Number sense (3 weeks)

Video: Finding and deriving a range of known facts



When communicating orally, numbers such as 17 and 70 can sound very similar. This can cause difficulty for pupils so exploring the similarities and differences using concrete manipulatives can reinforce place value understanding.



Which manipulatives are valuable in order to deepen pupils' understanding of the value of digits within numbers? Consider if any manipulatives may create misconceptions.

Before you start...

- What experiences have pupils had in Key Stage One in exploring number and developing number sense?
- Which representations that might be useful for developing number sense have pupils encountered in previous years?

Developing number sense
 L1 Exploring number sense
 L2 Derive new facts from known facts

The year starts with opportunities for pupils to show what they know about numbers and number facts. You should celebrate and explore their growing number sense which will be used to develop increased flexibility in calculating throughout this unit and beyond. Explore multiple representations of number and related facts that pupils are familiar with and use information gathered from these experiences to inform content of Maths Meetings, transitions and consolidation lessons.

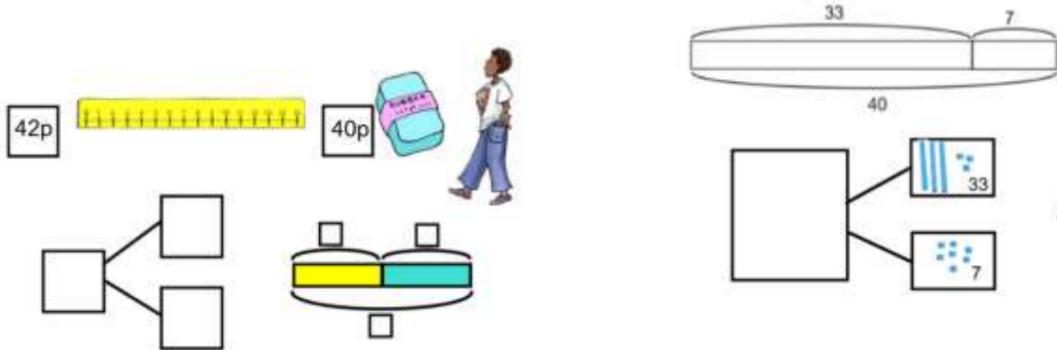
? What do you expect pupils to be able to say and do based on experiences in KS1?
 ? How will you use representations to support pupils' understanding of commutativity and the relationship between addition and subtraction to find related facts?

Understanding our number system
 L3 Explain that number names do not follow regular patterns
 L4 Say the value of each digit within 2-digit numbers
 L5 Compare and order numbers within 100

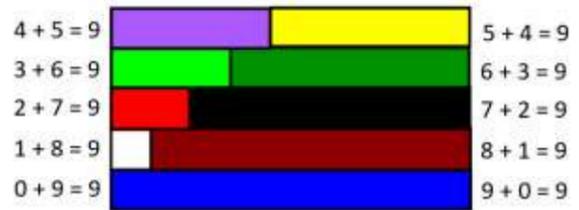
To gain a greater understanding of our number system, pupils explore the language of numbers and the patterns within the digits. Pupils can then make connections between this and the value of digits in 2-digit numbers before applying their understanding of place value to ordering numbers.

? What connections will you highlight between spoken numbers and the value of digits? Are any other languages spoken by people within your classroom? Do the number names work in the same way in other languages?
 ? What would you expect pupils to say when explaining the value of each digit?

Lesson 6, 10 and 15 are the scheduled location for consolidation lessons. However, this is only one suggestion and you may wish to use them at different times depending on the needs of your pupils.



Video: Adding and subtracting near multiples
Video: Near doubling for addition.



Solving money problems
 L14 Solve money problems using mental calculating strategies

The context of money is used to apply the calculation strategies reviewed across this unit. This can be used as an opportunity to build bar models to represent problems before selecting efficient strategies.

? How familiar are you with drawing and labelling bar models to represent a problem?

Using addition and subtraction strategies
 L11 Round and adjust to add/subtract with near multiples
 L12 Round and adjust to add with near doubles
 L13 Find the difference by adding on

The next few lessons explore calculation strategies that pupils have been introduced to in previous years. The focus should be on discussing and reasoning about when each strategy might be used and which strategy might be the most efficient depending on the numbers involved.

? How confident are you modelling these different strategies with Dienes and on a number line?

Investigating and using number bonds
 L7 Investigate number bonds to 20
 L8 Apply number bonds up to 10 to calculate without regrouping
 L9 Apply number bonds up to 20 to calculate with regrouping

Using part-whole language and a variety of representations (including bar models) pupils explore number bonds to 20. Time should be dedicated to representing, understanding and becoming fluent with these facts as they underpin calculation strategies.

When calculating in lessons 8-9, pupils should have opportunity to compare different strategies such as the "make ten" strategy with using the "number bonds to 20" thinking about which they think is more efficient.

? What opportunities will pupils have following this lesson to consolidate their number bonds within 20?

Video: Constructing bar models

Video: Exploring addition by partitioning
Video: Exploring subtraction by regrouping

Lesson 10 is a suggested consolidation lesson; you may want to give pupils further practice in recalling number bonds for 11-20 and using them to solve calculations involving regrouping.