Year 6 Unit 4: Fractions (2 weeks)

Before you start…
- How secure are pupils in identifying equivalent fractions?
- What models your pupils familiar with when adding and subtracting fractions?
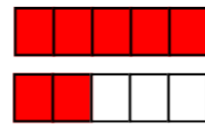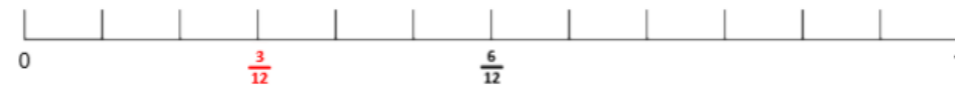- How secure is pupils' knowledge of multiples and factors?

Video: *Representing fractions with Cuisenaire*

Video: *Interpreting fractions in different ways*

$$\frac{7}{5}$$

Equivalence tricks
As with other aspects of fractions, finding equivalent fractions can be taught as a procedure, such as 'double or halve the numerator and denominator' or 'multiply one fraction by the denominator of the other'. While these are useful 'tricks' care should be taken to introduce these in a way that develops conceptual understanding of relationships between and within fractions. Pupils should always be encouraged to consider common factors and multiples when finding equivalence.

$$\frac{12}{7} = \frac{\square}{28} \qquad \frac{7}{4} = \frac{\square}{28}$$

Developing fraction understanding
L1 Identify, describe and represent fractions
L2 Understand and describe fraction equivalence
L3 Find equivalent fractions in their simplest form

Pupils begin the unit exploring what a fraction is through different representations, and you may wish to use this as an assessment opportunity. Through multiple representations, including Cuisenaire, pupils identify and describe different fractions including improper fractions. In lesson 2 and 3, pupils find and describe equivalent fractions, first exploring any equivalent fractions and then considering a fraction's simplest form. With the support of a range of representations, they will describe equivalence through a) identifying an equivalent multiplicative relationship between numerators and between their respective denominators and b) identifying an equivalent multiplicative relationship between the numerator and denominator within each fraction.

? *How will you use AfL from these lessons to adapt the lessons within the rest of the unit?*
? *What key language structures will you expect from pupils and how will you model these?*

Comparing and ordering fractions
L4&5 Compare and order fractions

Pupils employ a range of representations and strategies to compare and order fractions in a variety of contexts. They begin with proper fractions considering which is greater before the introduction of comparing mixed numbers and improper fractions. Both lessons are opportunities to develop number sense and a sense of the size of fractions through comparison to simple fractions such as a half. Earlier skills including equivalence and simplifying are used.

There is only one consolidation lesson in this unit however you may wish to dedicate more time to the various concepts introduced. Consider assessing pupils' understanding in the first lesson and adapting the timeline of the unit accordingly.

Video: *Adding fractions with the same denominator*

Video: *Adding fractions with different denominators*

Adding and subtracting fractions
L8&9 Add and subtract fractions with different denominators

Pupils have experienced addition and subtraction of fractions with the same denominator or where one denominator is a multiple of the other in previous years. Take time to connect the new learning within these lessons to previous models and structures. Pupils should apply their skills of equivalence and will solve problems with addition and subtraction in different contexts. In L9, pupils solve problems including mixed numbers and improper fractions, including number sequences.

? *What difficulty points may pupils encounter when adding and subtracting fractions and how will you plan for these?*

Understanding fraction and decimal equivalence
L6 Recall and use fraction and decimal equivalence
L7 Calculate decimal equivalence using short division

Pupils begin by consolidating their understanding of equivalence of one half and 0.5 before extending this to consider further decimal equivalence. Pupils should apply their understanding of equivalent fractions and opportunities should be taken to connect this with decimal tenths and hundredths. L7 deepens the understanding of fractions as an operator through revisiting short division strategies to find equivalence, including fractions such as one third. There are lots of opportunities to promote number sense across these lessons and encouraging flexibility in thinking about decimals and fractions in different ways supports pupils when working with both.

? *How will you support all pupils to use short division methods accurately in this lesson?*
? *What representations will support pupils in identifying fraction and decimal equivalence?*