Guidance for teachers – Upper KS2 Fractions

3.7 Finding equivalent fractions and simplifying fractions

These short videos are intended to provide your pupils with interactive lessons whilst they are learning from home. You can choose how regularly you set them for your class. Some of the learning might be consolidation and practice which aids confidence and retrieval and helps build firm foundations for moving onto future areas of mathematics. It is important that pupils experience these in the suggested order. They have been designed to be a coherent sequence of learning which builds on previous understanding and exemplify a teaching for mastery approach.

General features of a teaching for mastery approach, which can be found within these lessons:

- ***Stem sentences*** which promote precise mathematical vocabulary and generalisations for all pupils
- ***Representations*** which are carefully chosen and can be concrete, iconic or abstract and that move between the three.
- ***Opportunities for deepening understanding for all pupils*** - using small steps of learning enables pupils to learn together and gain deep conceptual understanding.
- ***Independent practice and retrieval*** - you could ask the children to send you their practice activities so that you can check understanding. You could also set supplementary activities to extend practice and provide some fluency practice with multiplication facts.

Lesson 12 - This lesson looks at what you can divide both the numerator and the denominator by to express a fraction in its simplest form. Questions are asked about why a faction is in its simplest form and attention is drawn to the fact that they are not always unit fractions. The terms common factor and highest common factor are used.

Lesson 13 - Children continue to explore simplifying fractions and experience examples where the numerator is not the highest common factor. Children are reminded to use the multiplication square and the stem sentence, **'___is a factor of ___, because ___ is in the ___ times table'**. For example, '7 is a factor of 42, because 42 is in the 7 times table' to support them.

Lesson 14 - Practice activities, such as sorting fractions into its simplest form and not in its simplest form, are used. This is to encourage children to look at the numerator and denominator and see if there is a common factor that can be used to divide both the numerator and the denominator by to make them both as small as possible, whilst ensuring an equivalent faction is created.

Lesson 15 - Children explore fractions that have been simplified. They consider, for example, where if they are all unit fractions after they have been simplified, they can be put in order and then where they add fractions that the sum can be expressed in its simplest form.

Lesson 16 - An *improper fraction,* where the numerator is greater than the denominator, can be expressed as a *mixed number*. At the beginning of this lesson there is a brief revision about what these two terms mean. The first method of two is shown, where the children see how an improper fraction can be expressed in its simplest term.

These lessons have been planned from the NCETM Mastery PD Materials. Please access the original materials here.

With thanks to Celia Dunne (London North East Maths Hub), Adrian Cannell (North West Three Maths Hub), Yasmin Hussain (London Central and NW Maths Hub) and Denise Heaton (Turing NW Maths Hub).