

Year 6 Unit 7: Fractions (1 week)

Video: Representing fraction multiplication

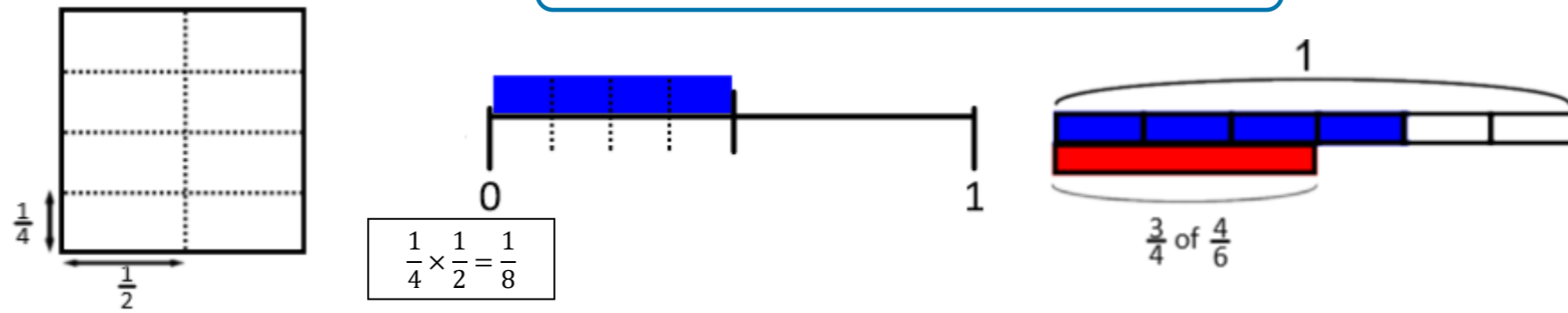
Procedural versus Conceptual?
 There are several 'tricks' for multiplication and division of fractions e.g. 'multiply the top and the bottom numbers' and 'keep, change, flip'. While these are useful and efficient strategies, pupils can become confused when applying these 'tricks' if conceptual understanding of why these work is not developed. Consider carefully how and when you will introduce these shortcuts.

Talking about division
 This ATM [article](#), written by MM team members, explores the way in which we talk about division and its implication for division involving fractions.

Video: Multiplying fractions

Before you start...

- How can connections be made to the prior Fractions unit?
- How confident are you in articulating and representing the concepts explored in this unit?



Video: Multiplying fractions with Cuisenaire Part 1
Video: Multiplying fractions with Cuisenaire Part 2

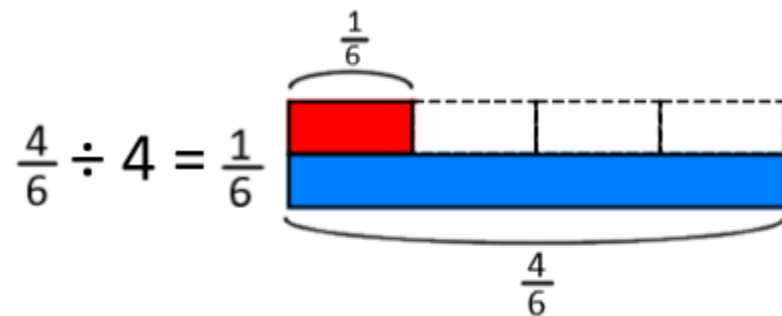
Multiplying fractions
 L1 Multiply an integer by a proper fraction
 L2 Multiply two fractions
 L3 Solve problems involving multiplying fractions

Pupils draw on their earlier experiences and understanding of fractions, including representations, to calculate with fractions. In lesson 1 pupils develop strategies for multiplying integer values by proper fractions, drawing on their understanding of commutativity and developing conceptual understanding through representations including bar and area models. In lesson 2, pupils explore representations to deepen conceptual understanding of multiplication of one fraction by another. It is important that this process is clearly modelled and articulated and so you may wish to view the PD videos prior to these lessons. In lesson 3, pupils apply this understanding to worded problems in different contexts.

? What key language structures will you promote in these lessons and how will you encourage their use?
 ? How will you support pupils in making connections between multiplying by a fraction and finding fractions of amounts?

Calculation guidance
 This suite of [videos](#) from NCETM includes a range of representations and modelling for thinking about calculating with fractions, including division.

Lesson 5 is a suggested consolidation lesson. You may wish to use this to further explore division of fractions including where the numerator is not a multiple of the divisor.



Models including bar models (with and without Cuisenaire rods) and area models are used throughout this unit to promote conceptual understanding and to structure the procedure. It is worth spending time prior to the unit practicing modelling and articulating this in order to be confident when sharing this with pupils. See the video guidance for more information.

Dividing fractions
 L4 Divide a fraction by an integer

Pupils develop their understanding of the process of dividing a fraction by an integer through representations, making connections with multiplication and recognising that, for example, dividing by three is the same as multiplying by one third, or finding one third of an amount. Within the lesson, pupils explore division of fractions where the numerator is and is not a multiple of the divisor. As with the previous lessons, consider how you will articulate and model this concept in order to promote a conceptual understanding.

? How will you support pupils in making connections between multiplication and division involving fractions?