Multiplying fractions 2

National Curriculum attainment target

• Multiply simple pairs of proper fractions, writing the answer
in its simplest form (for example, ).

Lesson objective

• Multiply simple pairs of proper fractions,
writing the answer in its simplest forms.

Previous related lesson

Unit 7, Week 1, Lesson 4

Prerequisites for learning

Pupils need to:

• understand proper fractions

• understand simplifying fractions

**Vocabulary**

proper fraction, multiplying, simplify

Future related lessons

None

Success criteria

Pupils can:

• multiply the numerators

• multiply the denominators

• simplify the fraction

• apply this to word problems

Getting Started

• Choose an activity from Number – Fractions.

**Year 6, Unit 10, Week 2**

Teach

Resources

mini whiteboard, pen and eraser (per child)

• Display: Slide 1.

• Say: **Tell your partner what you know about multiplying pairs of fractions.** Ask some pairs to feed back what they know.

• Say: **Fractions are multiplied by multiplying the numerators and then the denominators. Let’s work it out and then look at the diagram to see why this is.**

• Point to the numerators and say: **One times three.** Write this on the board with a fraction line underneath.

• Point to the denominators and say: **Two times four.** Write this under the line. e.g

• Say: **Now we can work it out. One times three is three, and two times four is eight.** Write =.

• Ask: **Can**  **be simplified?** Establish that this is its simplest form.

• Say: **Now look at the rectangle. Three quarters are shaded, we split them in half as we are multiplying by a half.** Draw lines on the board to split each of the three quarters in half.

• Draw an X on three of the pieces. Say: **These pieces are our answer. We need to see what fraction of the whole rectangle each of them are. There would be eight pieces this size in the whole rectangle so each of them is one eighth.**

• Display: Slide 2.

• Say: **Multiply these fractions together.**

• Display: Slide 3.

• Say: **Work out the answer to this, show your working out.** Check children’s working out and discuss any steps that children have found challenging.

Work through

this calculation as a class.

• Say: **There are times in real life when fractions are multiplied by fractions. Now we are going to solve some word problems.**

• Display: Slide 4. Say: **Sometimes recipes are given in amounts measured in cups rather than grams. If we only wanted to make half as many cakes we could find the amount of each ingredient by multiplying by a half.**

• Say: **Choose one ingredient and work out how much of it I would need to make half of
this recipe.**

• Choose some of the ingredients and ask pairs who have worked on it to share their working
out. Work through calculations as appropriate. On the board, write the new recipe next to the existing one.

• Display: Slide 5.

• Say: **This is a different context but again we can find out how much cereal was eaten by multiplying the fractions.**

• Say: **Find out how much cereal was left in the box. Show your working out on your board.** Watch children’s working out and notice any steps they find challenging.

• Say: **We have worked out that  of the box of cereal was eaten. What fraction of the cereal was left? Draw a diagram to help you work it out.** You may only wish to work through this question with more able learners.

• Discuss this as a class, and ask some pairs to share their diagrams. Use the diagram on the board to model this to the class. (The whole box of cereal can be represented by . If  of the box was empty to begin with, **** of a box has been eaten, then  of the box of cereal is left.)

Individualised Learning

 **Pupil Book 6C** – Page 40: Fraction multiplication problems

 **Progress Guide 6** – Extension, Year 6, Unit 10, Week 2, Lesson 1:

 Fraction and decimal multiplication grid

Refer to Activity 3 from the
Learning activities on page 403.

Plenary

Resources

mini whiteboard, pen and eraser (per child)



• Write  on the board.

• Say: **Write down a fraction multiplication where**  **would be the answer.**

• Ask a pairs to share their answer and how they worked it out.

• Say: **Write an answer on your board,
and then swap boards with your partner.**Children write the calculation for their
partners answer.

**Homework Guide 6**

Year 6, Unit 10, Week 2, Lesson 3:

Multiplication grid

Resources: four small pieces of paper

• Say: **Do that again, this time make it
more challenging.**

Overcoming Barriers

* Children need to have a very secure understanding of fractions and the whole amount, if they are to understand
multiplying fractions.