Fraction multiplication problems

Multiply simple pairs of proper fractions, writing the answer in its simplest form

Challenge 1

Example

$\frac{1}{5} \times \frac{2}{3} = \frac{1 \times 2}{5 \times 3} = \frac{2}{15}$

1 Multiply each pair of fractions together.

a $\frac{1}{6} \times \frac{1}{2}$ **b** $\frac{1}{2} \times \frac{1}{4}$ **c** $\frac{1}{7} \times \frac{1}{3}$ **d** $\frac{1}{5} \times \frac{1}{2}$ **e** $\frac{1}{4} \times \frac{1}{3}$

f $\frac{2}{5} \times \frac{1}{3}$ **g** $\frac{2}{3} \times \frac{2}{4}$ **h** $\frac{1}{8} \times \frac{2}{3}$ **i** $\frac{2}{5} \times \frac{3}{4}$ **j** $\frac{3}{5} \times \frac{1}{5}$

2 Julie is going to make a cake but she only wants to use $\frac{1}{2}$ of the ingredients. Work out how much of each ingredient she needs.

Cake Recipe

$\frac{2}{3}$ cup of flour

$\frac{3}{4}$ cup of sugar

$\frac{1}{2}$ cup of butter

$\frac{1}{3}$ teaspoon of salt

Challenge 2

1 Multiply each pair of fractions together, writing the answer in its simplest form.

Example

$\frac{3}{5} \times \frac{4}{6} = \frac{3 \times 4}{5 \times 6} = \frac{12}{30} = \frac{2}{5}$

a $\frac{3}{4} \times \frac{2}{5}$ **b** $\frac{2}{6} \times \frac{3}{7}$ **c** $\frac{3}{8} \times \frac{1}{2}$ **d** $\frac{4}{9} \times \frac{3}{6}$ **e** $\frac{5}{10} \times \frac{2}{4}$

f $\frac{1}{12} \times \frac{4}{5}$ **g** $\frac{7}{8} \times \frac{2}{3}$ **h** $\frac{6}{10} \times \frac{2}{6}$ **i** $\frac{5}{7} \times \frac{3}{7}$ **j** $\frac{3}{4} \times \frac{6}{8}$

2 Jonny is hungry. In the fridge he finds:

- $\frac{3}{8}$ of a pizza
- $\frac{4}{5}$ of a pint of milk
- $\frac{3}{4}$ of a cake
- $\frac{2}{3}$ of a bag of carrots

Write the answer to each of these problems in their simplest form.

a If he takes $\frac{1}{4}$ of each remaining amount, what fraction of the whole item will he have taken?

b If he eats half of each remaining amount, what fraction of each whole amount will be left?

c If he eats $\frac{2}{6}$ of each remaining amount, how much will he have eaten?

Challenge 3

For the following questions record your answers in a table like the one below.

	Sunday	Monday	Tuesday	Wednesday
Fraction of cereal eaten	$\frac{2}{10}$			
Fraction of cereal left	$\frac{8}{10}$			

On Sunday night the box of cereal had $\frac{8}{10}$ left in it.

a On Monday morning, Josie got up and ate some of the cereal. She ate $\frac{1}{4}$ of what was there and left $\frac{3}{4}$.

i What fraction of the whole box of cereal did she eat?

ii What fraction of the whole box of cereal did she leave?

b On Tuesday she ate $\frac{1}{2}$ of what was there and left $\frac{1}{2}$.

i What fraction of the whole box of cereal did she eat?

ii What fraction of the whole box of cereal did she leave?

c On Wednesday she ate $\frac{4}{6}$ of what was there, and left $\frac{2}{6}$.

i What fraction of the whole box of cereal did she eat?

ii What fraction of the whole box of cereal did she leave?

d Compare how much cereal was in the box on Sunday night to how much was in the box on Wednesday night.