

"It makes you learn new things. The diagrams help you."

"When it gets really tricky it helps us understand what's happening with the pictures."



Maths - No Problem!

Parents' Stay and Learn
Morning

6th March 2017

"It makes maths easier and it helps us improve."

"You learn things you didn't know before."

True or False?

- The most important thing about doing maths is getting it right as quickly as possible
- Some people are 'maths people' and are just better at maths
- Making mistakes makes your brain grow


Some background

- New Curriculum 2014 presents a significantly higher level of challenge throughout primary school
- Requires a different way of teaching and learning maths - wider and deeper
- We knew that we needed something new and exciting that could easily be implemented by all teachers and would provide a strong basis for our children's confidence, resilience, learning and progress.


Evidence for Maths No Problem's effectiveness


- Based on recommendations from Ofsted report 2011
- This approach formed the basis for the new Maths curriculum
- Tested through a project run by The National Centre for Excellence in Teaching Mathematics (NCEM); evaluation reports that 9 out of 10 schools participating in the project had seen improvements in teacher subject knowledge and pupil attainment.


Principles of Maths No-Problem


 Whole class moves through content at the same pace - lots of paired talk and discussion

 Time to think deeply about the maths, rather than a set of rules or procedures

 Builds self-confidence and resilience in learners - all pupils have access to the full maths curriculum.

 **Differentiates through depth rather than acceleration** - children are challenged with rich and sophisticated problems within the topic. Those children who need it are provided with additional support that day to consolidate their understanding before moving on.

 **Problem solving** - Lessons and activities are designed to be taught using problem-solving approaches to encourage pupils' higher-level thinking and supporting children to be able to explain what they know and how they know.

 **Concrete, pictorial, abstract approach** - Pupils learn new concepts initially using concrete examples, such as counters, then progress to drawing pictorial representations before finally using more abstract symbols, such as the equals sign (see Progression in Calculations and)

Multiplying Fractions


In Focus

There is $\frac{2}{3}$ of a pizza left.



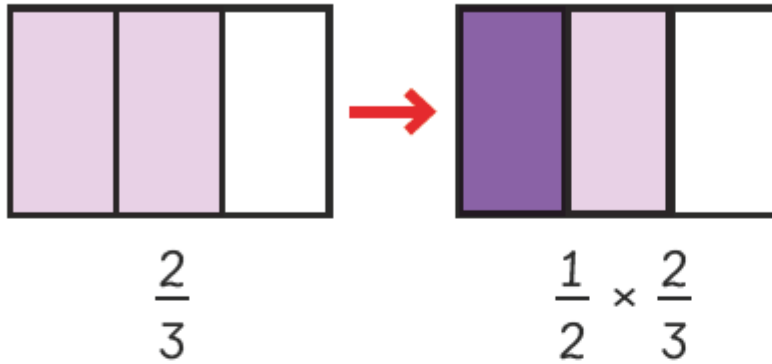
takes $\frac{1}{2}$ of what is left.



Think about ways to work out how much pizza  takes.

Let's Learn

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



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



$\frac{1}{2}$ of 2 thirds

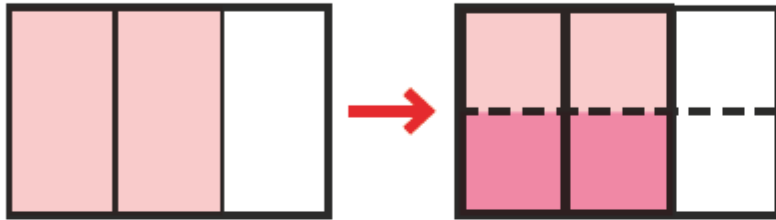
$$\frac{1}{2} \times \frac{2}{5} = \frac{\text{[]}}{5}$$

$$\frac{1}{2} \times \frac{2}{7} = \frac{\text{[]}}{7}$$

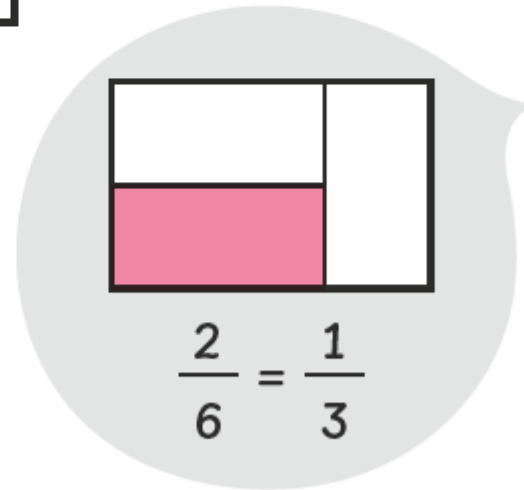
$$\frac{1}{2} \times \frac{2}{9} = \frac{\text{[]}}{9}$$



2 $\frac{1}{2} \times \frac{2}{3} = \frac{\square}{\square}$



$$\begin{aligned} \frac{1}{2} \times \frac{2}{3} &= \frac{1}{2} \times \frac{4}{6} \\ &= \frac{2}{6} \\ &= \frac{1}{3} \end{aligned}$$



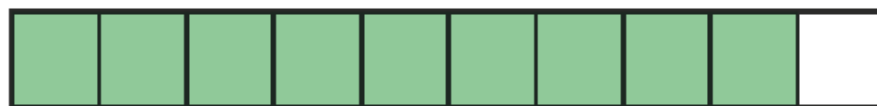
Guided Practice

1 (a) Find the value of $\frac{1}{4} \times \frac{4}{5}$.



(b) Find the value of $\frac{3}{4} \times \frac{4}{5}$.

2 (a) Find the value of $\frac{1}{3} \times \frac{9}{10}$.



(b) Find the value of $\frac{2}{3} \times \frac{9}{10}$.

Complete Worksheet 11 – Page 76 – 77

Name: _____ Class: _____ Date: _____

Worksheet 11

Multiplying Fractions

1 Multiply.

(a) $\frac{1}{5} \times \frac{5}{7} =$



(b) $\frac{2}{7} \times \frac{7}{9} =$




(c) $\frac{4}{5} \times \frac{5}{11} =$

(d) $\frac{2}{7} \times \frac{7}{15} =$

Lesson Structure

 In Focus task - discussion and practical learning

 Guided practice - record in numeracy learning journal

 Workbook pages for each lesson completed independently

 Assessment

 Extension or 'Masterclass'

3 0 15


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Multiplying Fractions


Lesson 12

In Focus

Is $\frac{1}{2} \times \frac{1}{3}$ equal to $\frac{2}{3} \times \frac{1}{2}$?



$\frac{2}{3}$ of 1 third is like taking half of a third of a pizza.



$\frac{1}{2}$ of 1 half is like taking a third of half a pizza.

Let's Learn

$\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$

$\frac{1}{3} \times \frac{1}{2} = \frac{1}{6}$

yes $\frac{1}{3} \times \frac{1}{2}$ is equal to $\frac{1}{2} \times \frac{1}{3}$ because 3 doesn't matter which way you put your numbers in adding and multiplication its called the commutative law!

$\frac{1}{3} \times \frac{1}{4} = \frac{1}{12}$ and $\frac{1}{4} \times \frac{1}{3} = \frac{1}{12}$ ✓ they have the same products

$\frac{1}{2} \times \frac{1}{5} = \frac{1}{10}$ and $\frac{1}{5} \times \frac{1}{2} = \frac{1}{10}$ ✓ they have the same products

$\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$ and $\frac{1}{2} \times \frac{1}{4} = \frac{1}{8}$ ✓ they have the same products

$\frac{1}{2} \times \frac{1}{3}$ has the value of $\frac{1}{6}$ the same as $\frac{1}{3} \times \frac{1}{2}$

know that $\frac{1}{3} \times \frac{1}{2} = \frac{1}{6}$ so if you x it by 3 it would equal $\frac{3}{6}$ because $\frac{3}{3} \times \frac{1}{2} = \frac{3}{6}$ it would change to $\frac{3}{3} \times \frac{1}{2} = \frac{3}{6}$

xxx Fantastic deep thinking about fractions!

Can you simplify these?

$\frac{1}{2} \times \frac{2}{3} = \frac{2}{6} = \frac{1}{3}$

$\frac{1}{3} \times \frac{3}{4} = \frac{3}{12} = \frac{1}{4}$

$\frac{2}{5} \times \frac{5}{10} = \frac{10}{50} = \frac{1}{5}$ ✓

$\frac{3}{4} \times \frac{4}{6} = \frac{12}{24} = \frac{1}{2}$ ✓

$\frac{4}{5} \times \frac{5}{8} = \frac{20}{40} = \frac{1}{2}$ ✓

How can you help at home?

1. High Expectations
2. Building Resilience
3. Celebrate Mistakes
4. Praise (Growth Feedback)

