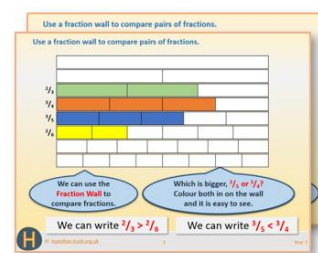


Week 13, Day 2

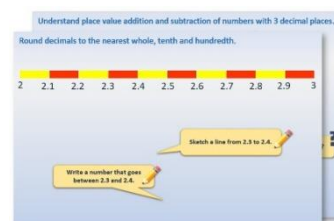
Multiplication

Each day covers one maths topic. It should take you about 1 hour or just a little more.

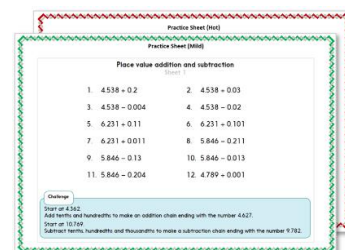
1. If possible, watch the **PowerPoint presentation** with a teacher or another grown-up.



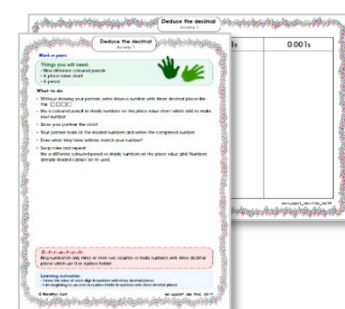
OR start by carefully reading through the **Learning Reminders**.



2. Tackle the questions on the **Practice Sheet**.
There might be a choice of either **Mild** (easier) or **Hot** (harder)!
Check the answers.



3. Finding it tricky? That's OK... have a go with a grown-up at **A Bit Stuck?**



4. Think you've cracked it? Whizzed through the Practice Sheets?
Have a go at the **Investigation**...

Learning Reminders

Multiply using arrays and beaded lines.

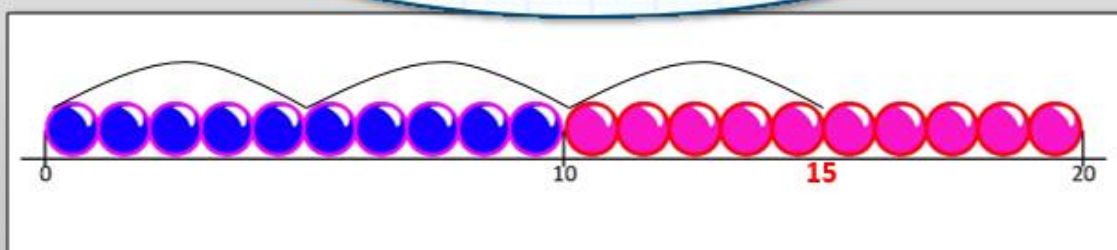


What can you see? How many rows? How many in each row? How many altogether? What number sentence could we write?



$$3 \times 5 = 15$$

3 lots of 5, or 3 times 5. How many lots of 5 are in 15? 3



Multiply using arrays and beaded lines.



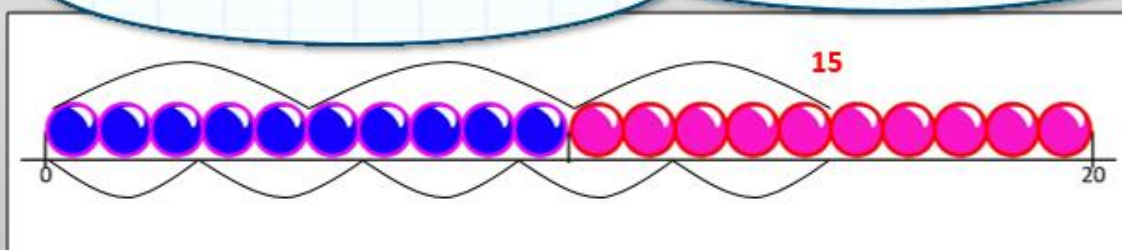
What can you see now? How many 3s are in 15? What number sentence can we write?



$$5 \times 3 = 15$$

5 lots of 3, or 5 times 3. How many lots of 3 are in 15? 5

3×5 and 5×3 have the same answer!



Learning Reminders

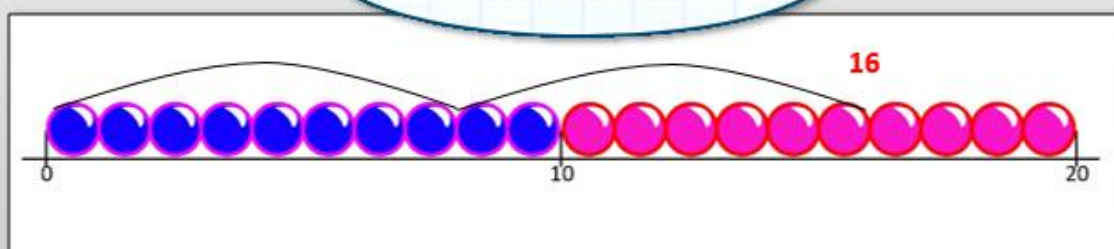
Multiply using arrays and beaded lines.



2 rows of 8.
What multiplication can we write?

$$2 \times 8 = 16$$

Let's check, 2 hops of 8 on the number line.



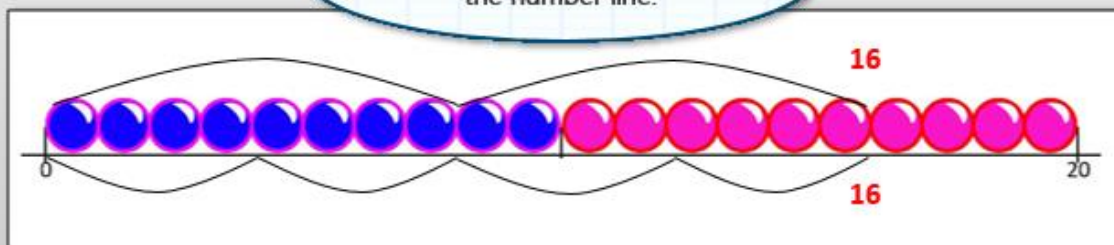
Multiply using arrays and beaded lines.



What multiplication can we write now? We still have 16 counters!

$$4 \times 4 = 16$$

Let's check, 4 hops of 4 on the number line.

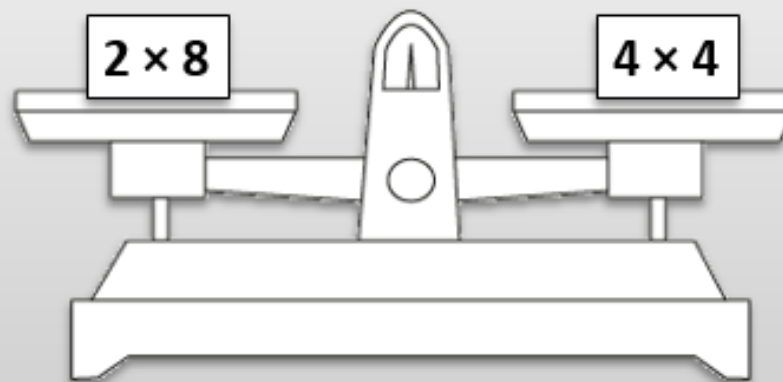


Learning Reminders

Multiply using arrays and beaded lines.

$$2 \times 8 = 4 \times 4$$

The **equals sign is like a balance!**
The number sentences on each
side have the same answer.



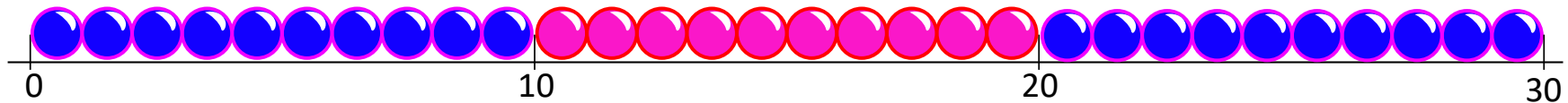
Practice Sheet Mild

Solving multiplications

1. Complete the array to represent, then solve: 4×3



2. Draw jumps on a line to show how to solve: 8×2



Choose a strategy to solve the following:

3. 4×10

7. 6×4

4. 6×3

8. 9×3

5. 8×5

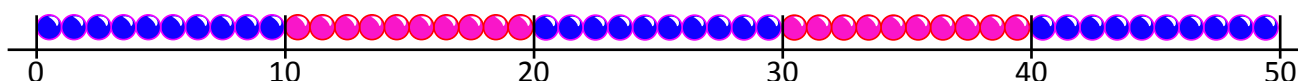
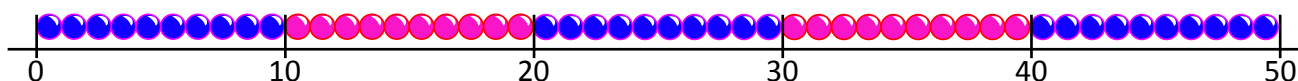
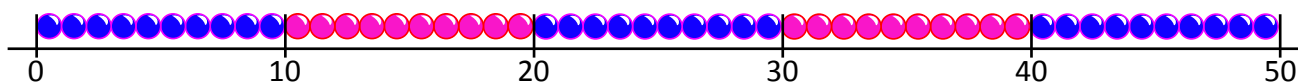
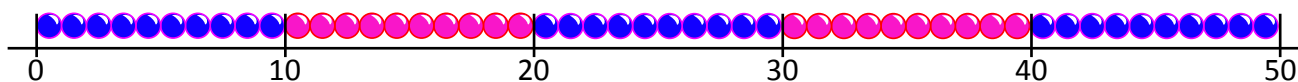
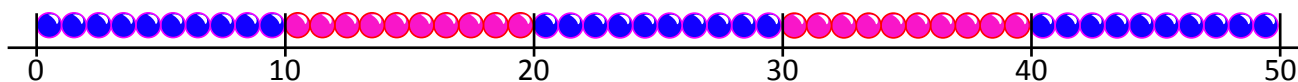
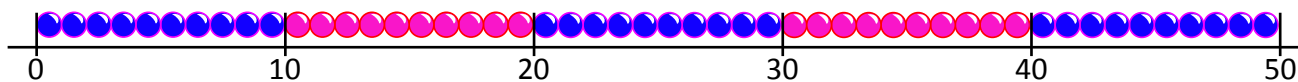
9. 2×12

6. 4×7

10. 7×3

Practice Sheet Mild

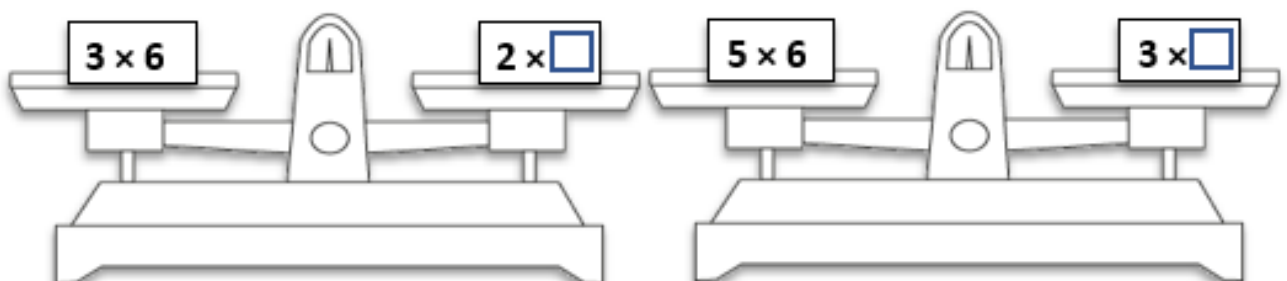
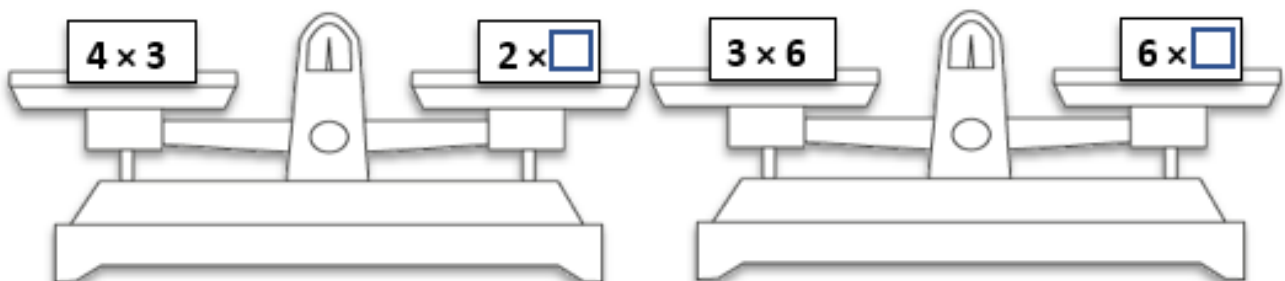
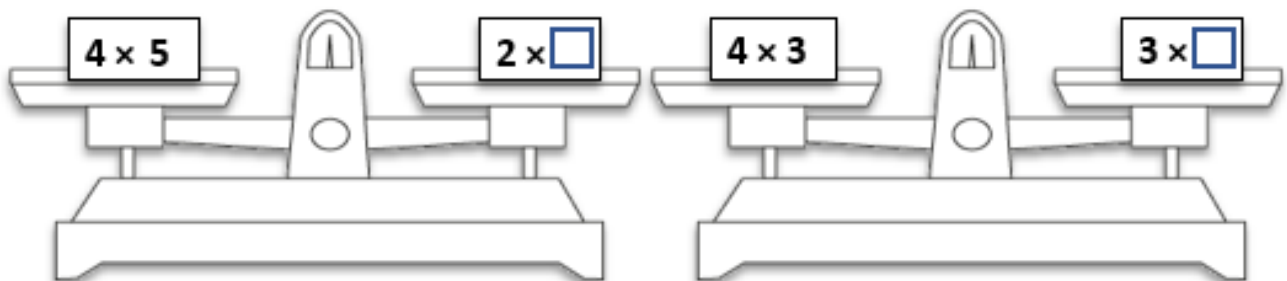
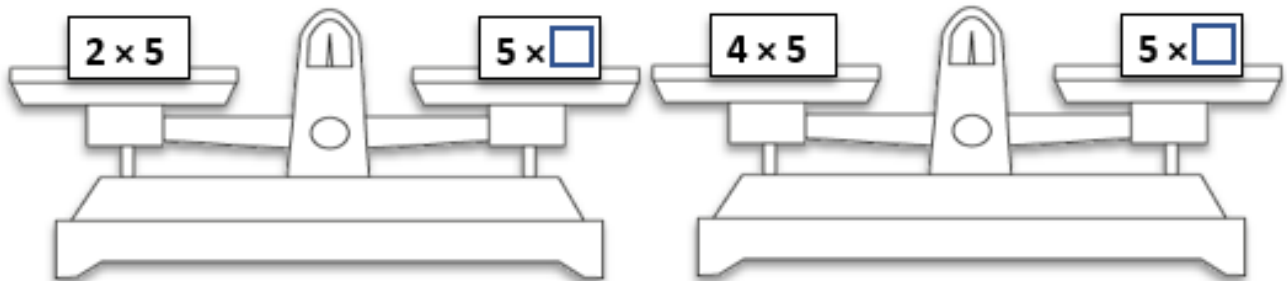
0 - 50 beaded lines



Practice Sheet Hot

Multiplication balances

Complete the multiplications to make the scales balance.



Challenge

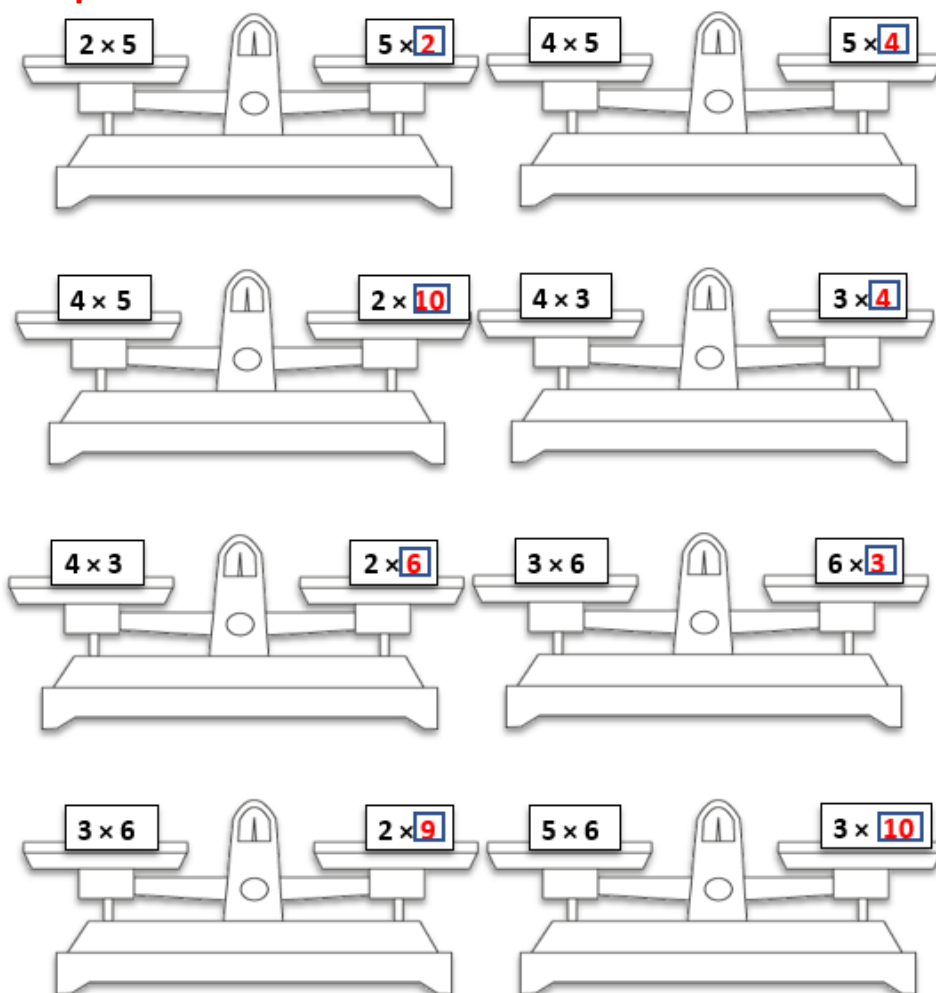
Write some of your own balancing multiplications. $\square \times \square = \square \times \square$

Practice Sheets Answers

Solving multiplications (mild)

1. $4 \times 3 = 12$ (have children drawn a 3×4 or a 4×3 array?)
2. $8 \times 2 = 16$
3. $4 \times 10 = 40$
4. $6 \times 3 = 18$
5. $8 \times 5 = 40$
6. $4 \times 7 = 28$
7. $6 \times 4 = 24$
8. $9 \times 3 = 27$
9. $2 \times 12 = 24$
10. $7 \times 3 = 21$

Multiplication balances (hot)



Challenge

Write some of your own balancing multiplications. $\square \times \square = \square \times \square$

E.g. $5 \times 10 = 10 \times 5$, $4 \times 4 = 8 \times 2$, $8 \times 5 = 4 \times 10$

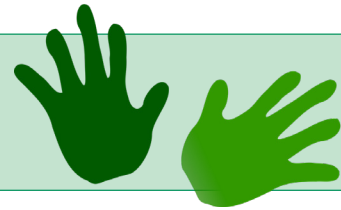
A Bit Stuck?

Row-row-row your bakes

Work in pairs

Things you will need:

- counters
- pencil and paper



What to do:

- On Monday, Mrs Multiple, the baker, made 12 cup cakes.



Rather than straight lines like this, she likes to arrange them in rectangles or **arrays**. How could she do it? Use counters to help you explore the arrays you can make with 12 cakes.

Draw or write down what you discover.

- On Tuesday, Mrs Multiple made 15 cakes, how could she arrange them in an array? It's a larger number of cakes, so do you think there will be more or fewer ways to arrange them than with Monday's 12 cakes?
- On Wednesday, Mrs Multiple baked 19 cakes! Can she place these in one or more **arrays**?

I wonder if the cakes can go in rows of three?

S-t-r-e-t-c-h:

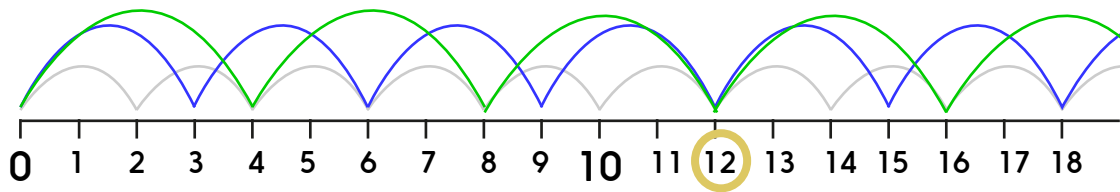
Find which number of cakes from 10 to 20 can be arranged in the most ways. Which do you think it might be?

Learning outcomes:

- I understand that an array is a rectangular arrangement of objects with the same number in each of its rows.
- I can begin to use and remember multiplication facts.

Investigation

Golden numbers



1. Using an ordinary pencil draw hops of 2 along your numbered line (see resources), starting on 0 and finishing on 40.
2. Take a blue pen and draw hops of 3 along the numbered line.
3. Next take a green pen and draw hops of 4 along the line.
4. Finally take a red pen and draw hops of 5 along the line (This is not yet done on our diagram!)

Look together and identify numbers which have THREE hops landing on them. Circle these numbers in gold.

5. Look at the golden numbers together. Write them in a line.
6. Can you predict which will be the next golden number? Discuss it and write some suggestions. How could you test this?
7. Look at the numbers where the three hops are grey, blue and green. Write these numbers in a line. Can you predict the next one?
8. Look at the numbers where the three hops are grey, green and red. Write these in a line. Can you predict the next one?
9. Find the number where the three hops are grey, blue and red. What do you think the next one of these would be?

Challenge

Can you find the next eight golden numbers?

Investigation

Golden numbers

