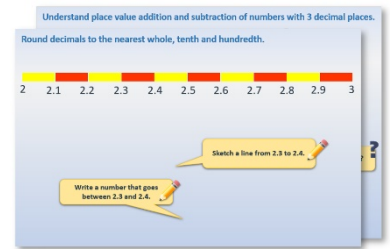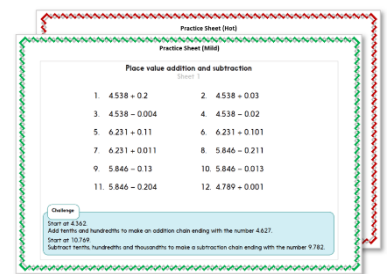# Week 15, Day 2
Scaling up

Each day covers one maths topic. It should take you about 1 hour or just a little more.
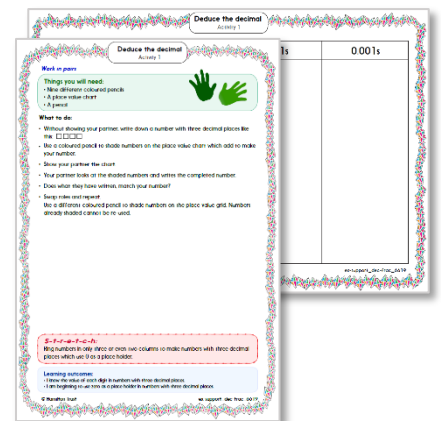
1. Start by reading through the **Learning Reminders**.
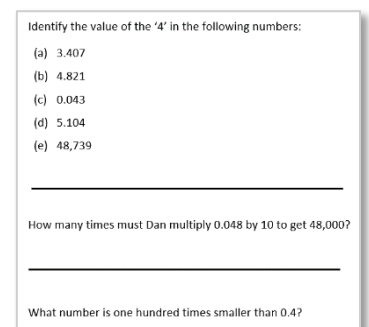   They come from our *PowerPoint* slides.

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. Have I mastered the topic? A few questions to
   Check your understanding.
   Fold the page to hide the answers!

Learning Reminders

Scale up by multiplying by 4 (double twice).

This recipe is enough to make **one tray** of flapjacks.

Someone is making lots of flapjacks for the cake sale and needs to make **four trays**!

What do they need to do...?

FLAPJACKS

150g butter
100g dark brown soft sugar
50g dried fruit
3 tablespoons of golden syrup
200g porridge oats

Scale up by multiplying by 4 (double twice).

They need to multiply each measure by 4.

Let's double each measure twice.

To double 150 we can double 100 and double 50 to give a total of 300; then double again.

FLAPJACKS

150g butter x4 = 600g
100g dark brown soft sugar x4 = 400g
50g dried fruit x4 = 200g
3 tablespoons of golden syrup x4 = 12 tablespoons
200g porridge oats x4 = 800g

Learning Reminders

Scale up by multiplying by 10.

Someone else is making lemonade!

This is enough for one large jug, but they need **10 jugs** to sell.

What do they need to do? **Multiply by 10.**

LEMONADE

3 lemons
150g caster sugar
1 litre of water

Scale up by multiplying by 10.

1500g is 1kg and 500g, or 1½ kg (1½ bags of sugar!).

LEMONADE

3 lemons   x10 = 30 lemons
150g caster sugar x10 = 1500g
1 litre of water x10 = 10 litres

Practice Sheet Mild
Scaling up

How many items will the caterer need for a party 4x the size and 10x the size of their standard party?

	Standard party (20 guests)	Party 4x the guests	Party 10 x the guests
Cups	20		
Large jugs	15		
Large serving plates	25		
Side plates	40		
Sandwiches	60		
Large packets of crisps	16		
Sausage rolls	80		
Mini quiches	100		
Mini cupcakes	120		
Biscuits	150		

Practice Sheet Hot
Scaling up

How many items will the caterer need for a party 4x the size and 10x the size of their standard party?

	Standard party (40 guests)	Party 4x the guests	Party 10 x the guests
Cups	45		
Large jugs	32		
Large serving plates	50		
Side plates	80		
Sandwiches	124		
Large packets of crisps	39		
Sausage rolls	255		
Mini quiches	172		
Mini cupcakes	245		
Biscuits	350		

Practice Sheets Answers

Scaling up (mild)

	Standard party (20 guests)	Party 4x the guests	Party 10 x the guests
Cups	20	80	200
Large jugs	15	60	150
Large serving plates	25	100	250
Side plates	40	160	400
Sandwiches	60	240	600
Large packets of crisps	16	64	160
Sausage rolls	80	320	800
Mini quiches	100	400	1000
Mini cupcakes	120	480	1200
Biscuits	150	600	1500

Scaling up (hot)

	Standard party (40 guests)	Party 4x the guests	Party 10 x the guests
Cups	45	180	450
Large jugs	32	128	320
Large serving plates	50	200	500
Side plates	80	320	800
Sandwiches	124	496	1240
Large packets of crisps	39	156	390
Sausage rolls	255	1020	2550
Mini quiches	172	688	1720
Mini cupcakes	245	980	2450
Biscuits	350	1400	3500

Explore more Hamilton Trust Learning Materials at https://wrht.org.uk/hamilton
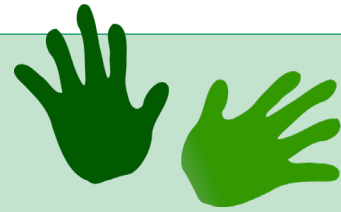
Work in pairs

Things you will need:
• A pencil
• A sheet of function machines
• 10s and 1s place cards if you find them helpful

What to do:

• Choose a number to multiply by 4.

11 12 13 14 15 16 17 18 19 20 21 22 23 24

• Write it on the function machine sheet.
  Double it twice to multiply by 4.
  Write a number sentence.

• Repeat with at least three other numbers.

Double 18

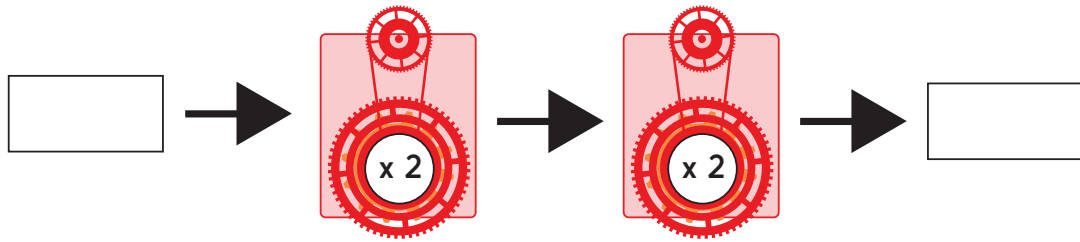20 + 16 = 36

Double 36

S-t-r-e-t-c-h:
Choose one of your answers. Divide by 4 by halving twice.
What do you notice?

Learning outcomes:
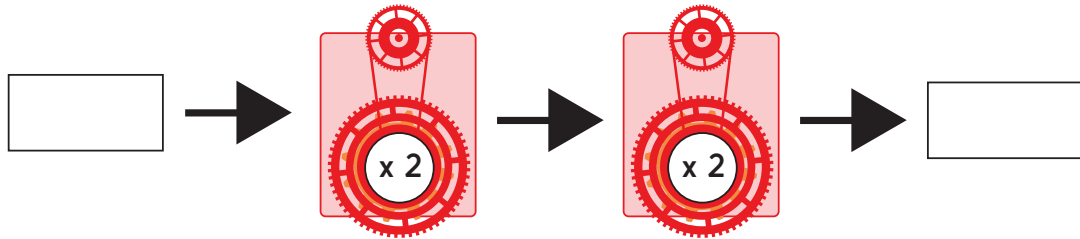• I can multiply by doubling twice.
• I am beginning to divide by 4 by halving twice.

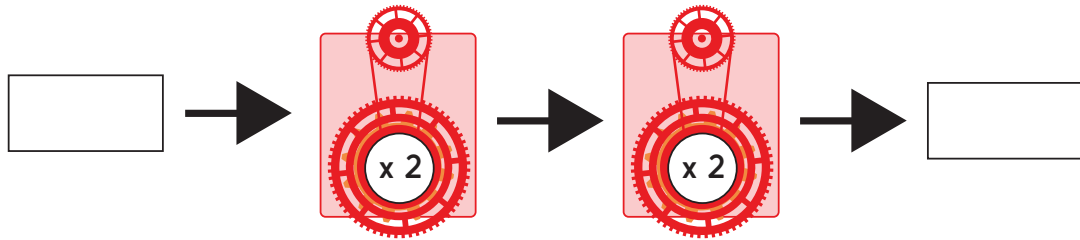[ ] → (x 2) → (x 2) → [ ]
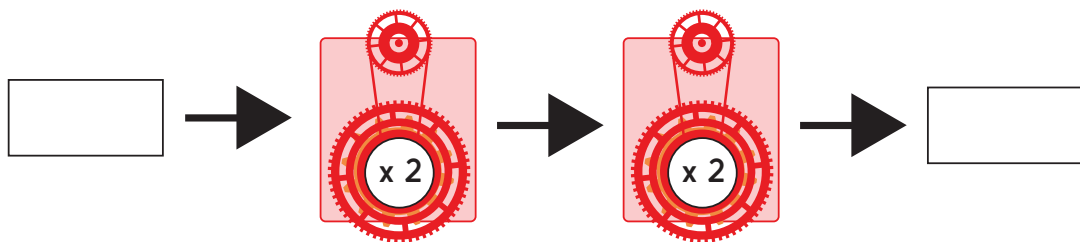
4 x [ ] = [ ]

[ ] → (x 2) → (x 2) → [ ]

4 x [ ] = [ ]

[ ] → (x 2) → (x 2) → [ ]

4 x [ ] = [ ]

[ ] → (x 2) → (x 2) → [ ]

4 x [ ] = [ ]

[ ] → (x 2) → (x 2) → [ ]

4 x [ ] = [ ]

Place Value Cards

10	5
20	6
1	7
2	8
3	9
4	

Check your understanding
Questions

The postcards in the art gallery measure 15cm by 10cm.

    i.   One is of a painting which is 4 times the length and width of the postcard.

    ii.   One is of a painting which is 10 times bigger.

    iii.   One is of a painting which is 5 times bigger.

Write the measurements of each painting.

Fold here to hide answers.

Check your understanding
Answers

The postcards in the art gallery measure 15cm by 10cm.

    i.   One is of a painting which is 4 times the length and width of the postcard. 60cm by 40cm.

    ii.   One is of a painting which is 10 times bigger. 150cm by 100cm.

    iii.   One is of a painting which is 5 times bigger. 75cm by 50cm.

Write the measurements of each painting.

Children should be using mental maths skills to solve these, e.g. doubling and doubling again to multiply by 4, moving digits to multiply by 10.

Explore more Hamilton Trust Learning Materials at https://wrht.org.uk/hamilton