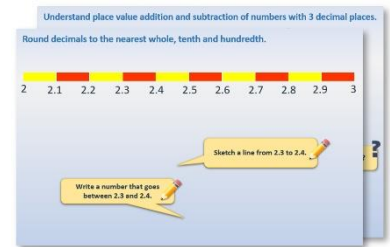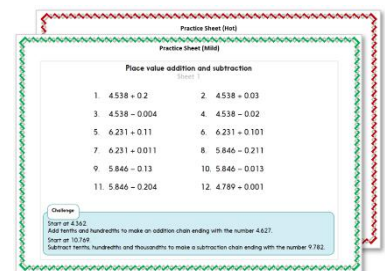# Week 10, Day 3
Halves (2)

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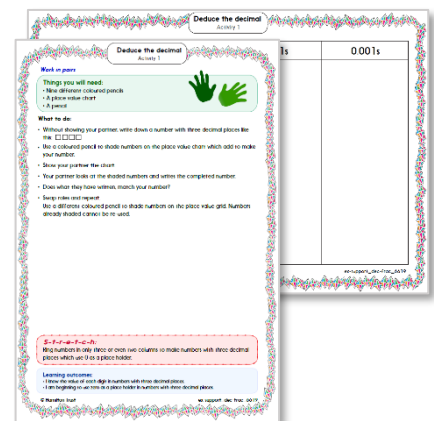
1. Start by reading through the **Learning Reminders**.
They come from our *PowerPoint* slides.

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

Learning Reminders

Halving numbers.

What is half of 10?

Half of 10 is 5
Can you see why?

What is double 5?

Double 5 is 10.

Doubling is the opposite of halving!

Learning Reminders

Learning Reminders

Halving numbers.

16	
8	8

This is called a **bar model.**

A bar model can be used to represent number relationships and calculations.

Half of 16 is 8.

Double 8 is 16.

Practice Sheet Mild
Halving

Halve the following numbers:

1.   4   Half of 4 is 2.

2.   8   Half of ☐ is ☐.

3.   6

4.   10

5.   12

6.   18

7.   16

8.   20

Challenge

Write doubles to go with two of your answers.
Half of ☐ is ☐. Double ☐ is ☐.

Halving

Halve the following numbers:

1. 12   Half of 12 is 6

2. 18

3. 16

4. 20

5. 14

6. 22

7. 26

8. 30

Challenge

Write doubles to go with two of your answers.

Half of ☐ is ☐. Double ☐ is ☐.

Practice Sheet Answers

Halving (mild)

1. 4   Half of 4 is 2
2. 8   Half of 8 is 4
3. 6   Half of 6 is 3
4. 10   Half of 10 is 5
5. 12   Half of 12 is 6
6. 18   Half of 18 is 9
7. 16   Half of 16 is 8
8. 20   Half of 20 is 10

Challenge

Any 2 of the following:
Double 4 is 8
Double 8 is 16
Double 6 is 12
Double 10 is 20
Double 12 is 24
Double 18 is 36
Double 16 is 32
Double 20 is 40

Halving (hot)

1. 12   Half of 12 is 6
2. 18   Half of 18 is 9
3. 16   Half of 16 is 8
4. 20   Half of 20 is 10
5. 14   Half of 14 is 7
6. 22   Half of 22 is 11
7. 26   Half of 26 is 13
8. 30   Half of 30 is 15
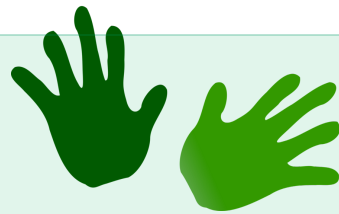
Challenge

Any 2 of the following:
Double 12 is 24
Double 18 is 36
Double 16 is 32
Double 20 is 40
Double 14 is 28
Double 22 is 44
Double 26 is 52
Double 30 is 60

Work in pairs

Things you will need:
• Number cards (2, 4, 6, 8, 10 and 12)
• Picture of two squirrels
• 12 acorns (or cubes)
• A pencil

What to do:

Two squirrels have dug up some acorns. They need to have half each or they will squabble!

• Shuffle the number cards.

• Take a card. Take that number of acorns.

• Give half to each squirrel.

• Write how many acorns they get each.

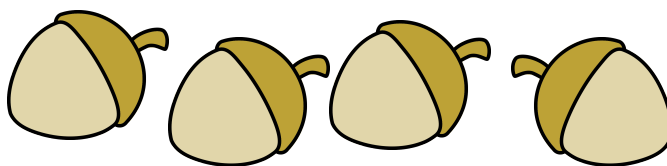• Repeat for as many cards as you can.

Half of ☐ is ☐
Half of ☐ is ☐
Half of ☐ is ☐
Half of ☐ is ☐
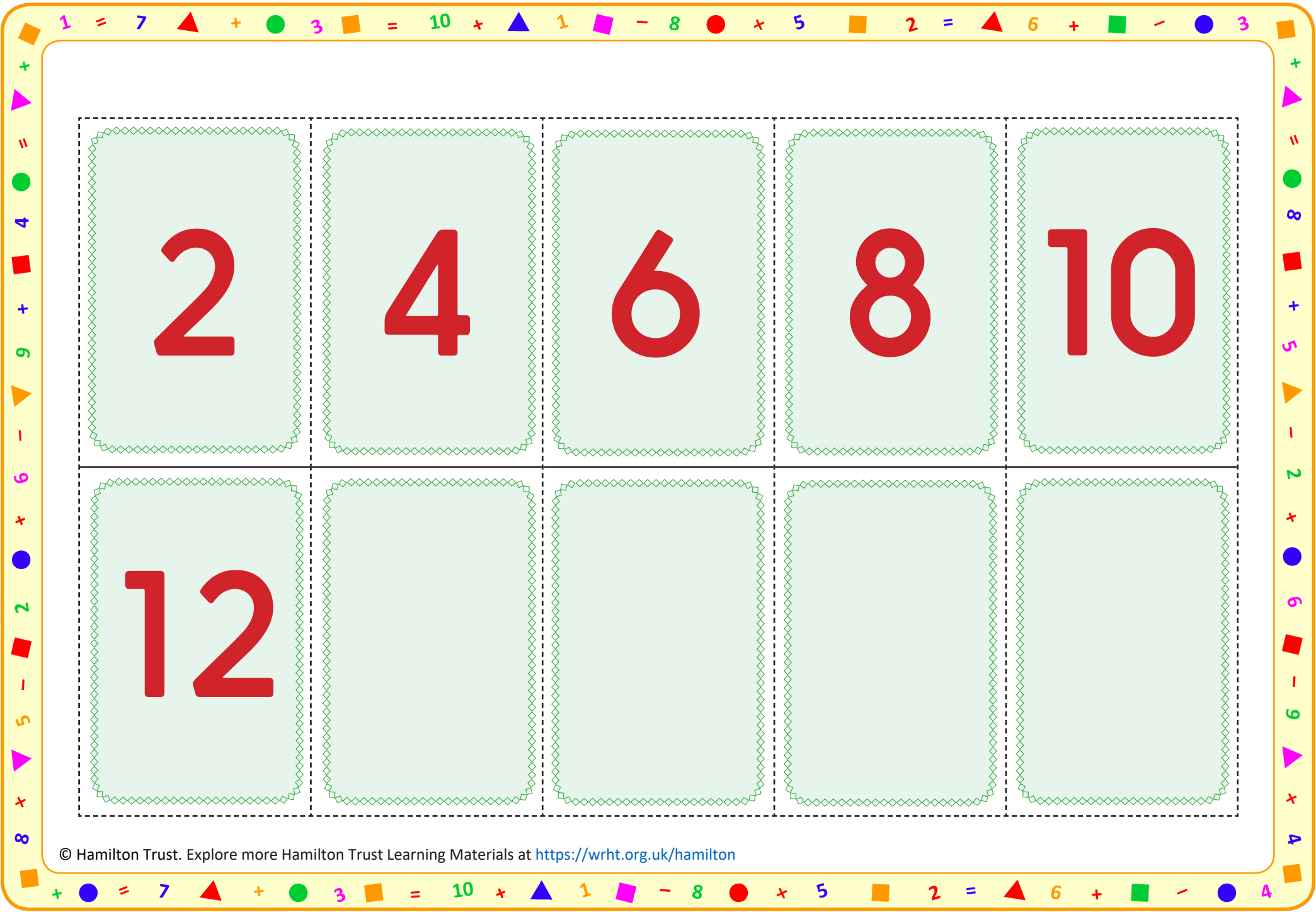Half of ☐ is ☐
Half of ☐ is ☐

4

S-t-r-e-t-c-h:
Say some doubles to go with your halves, e.g. half of 4 is 2, so double 2 is 4.

Learning outcomes:
• I can find half of even numbers up to 12.
• I am beginning to relate doubling and halving.

Squabbling squirrels

| 2 | 4 | 6 | 8 | 10 |
| 12 | | | | |

Investigation
Halving chains

1. Write 12. Halve it (using cubes to help if necessary). Write the answer 6. Then halve 6 and write the answer, 3. Can you halve 3 without cutting a cube in half? Try if you are not sure.
We've made a halving chain starting at 12.

2. Find which number up to 20 produces the longest halving chain.
(Each number in the chain must be a whole number.)
Which number do you think it might be?

   Did 20 produce the longest chain?
   Why not?
   What do you notice about the numbers in the longest chain?

Halving chains

12 → 6 → 3

14 →

Challenge

Could you use doubling to produce an even longer halving chain?