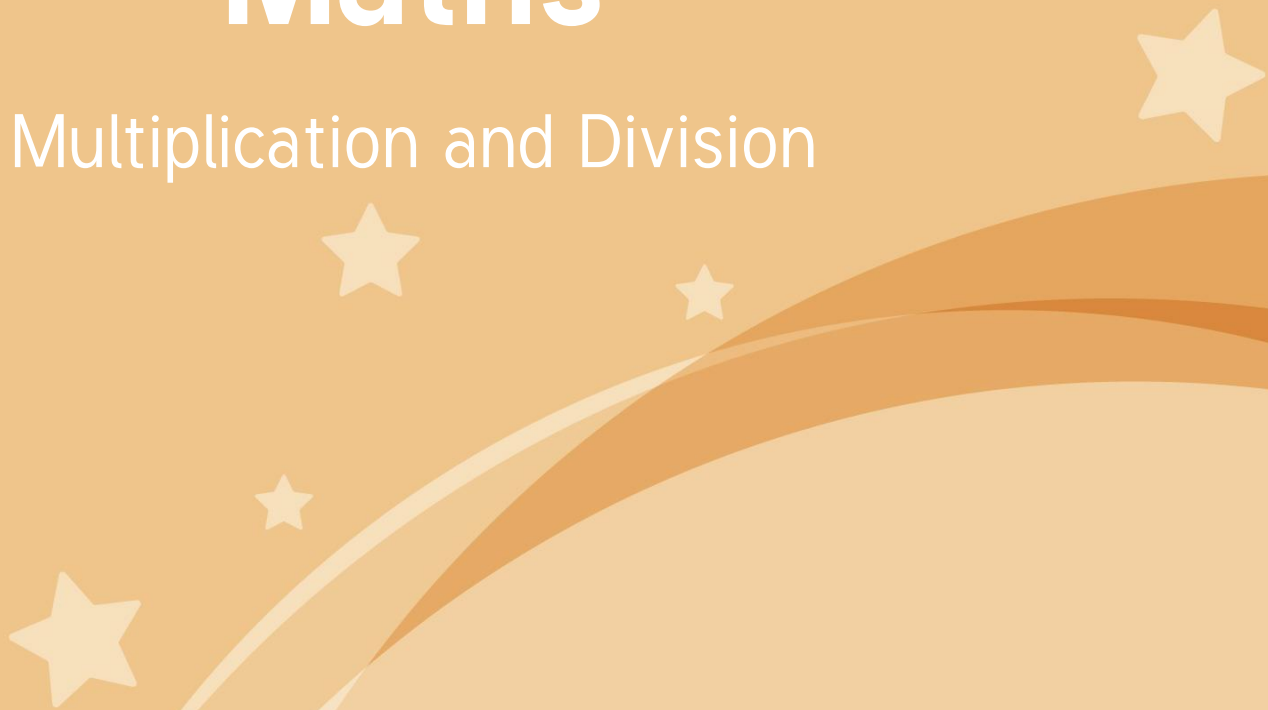


# Maths

## Multiplication and Division



# Twins



# Aim

- I can multiply and divide mentally using doubling and halving.

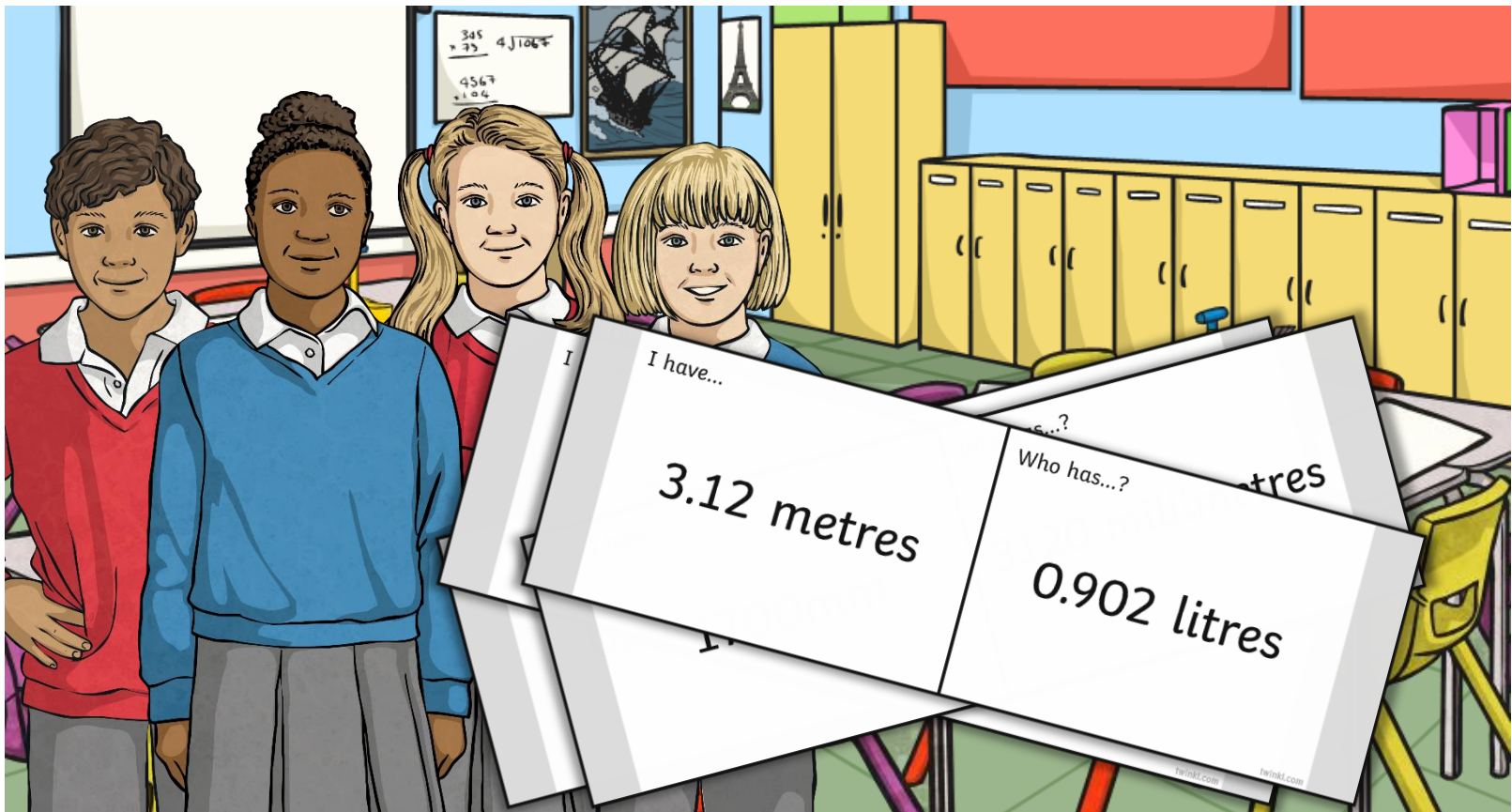
# Success Criteria

- I can halve numbers by dividing them by two.
- I can double numbers by multiplying them by two.
- I can use partitioning and recombining to halve and double numbers up to four digits and numbers with decimals.

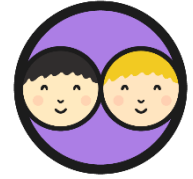
# Measures Match



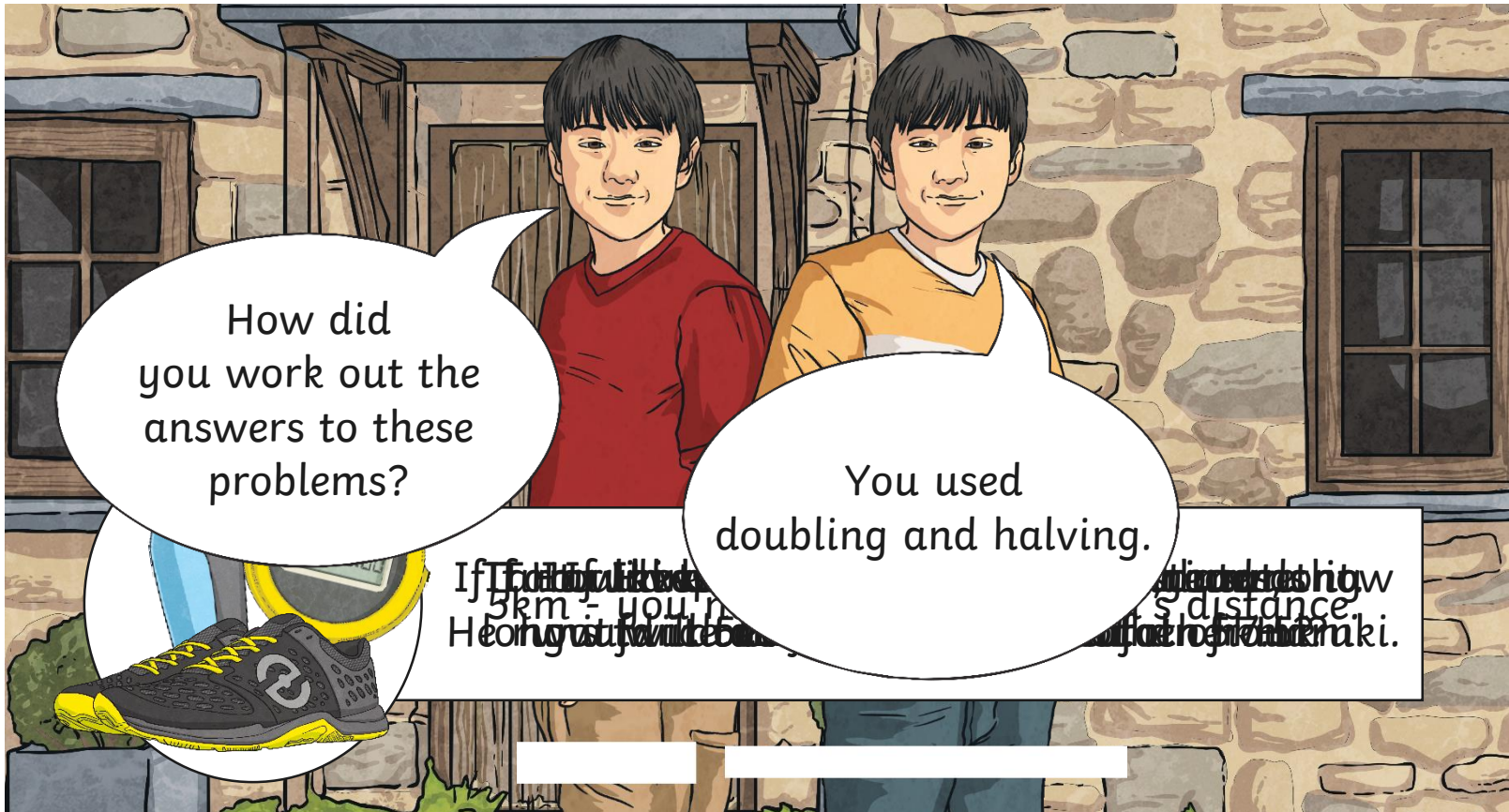
Share the **Measures Loop Cards** between the class.



# Twins in Training



Haruki and Tarou look very similar but are very different.



How did you work out the answers to these problems?

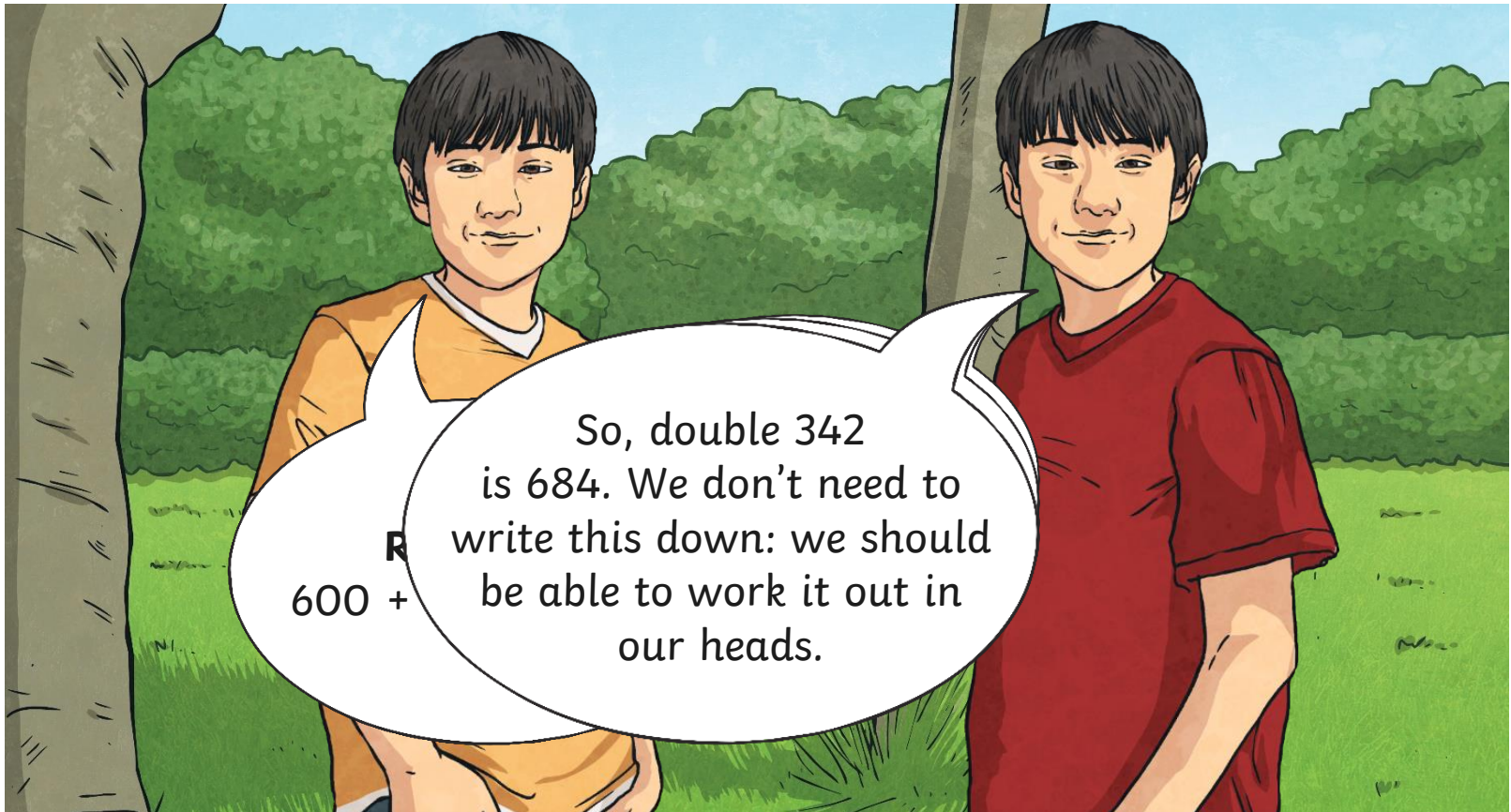
You used doubling and halving.

If I run 5km, you'll run 10km. How far will you run if I run 15km?  
If I run 10km, you'll run 5km. How far will you run if I run 20km?




# Doubling

To double a number, we multiply it by 2.



# Halving

To halve a number, we divide it by 2.

An illustration of a young man with dark hair, wearing an orange t-shirt with a white horizontal stripe, standing in a garden. He is positioned in front of a wooden fence. To his left is a green bush and a small tree. To his right are pink flowers and green grass. A large white speech bubble is overlaid on the image, containing text.

So, half of 6328  
is 3164. We don't need  
to write this down: we  
should be able to work  
it out in our head.



# Doubling and Halving



PCR - **p**artition, **c**alculate, **r**ecombine  
Can you work these out in your head using PCR?

double 92 = **184**

half of 6454 = **3227**

half of 64 = **32**

double 9452 = **18 904**

Start at the end of the arrow and move towards the tip. How far can you get before they become too difficult to work out mentally?

double 5632 = **11 264**

half of 8644 = **4322**

double 15 232 = **30 464**

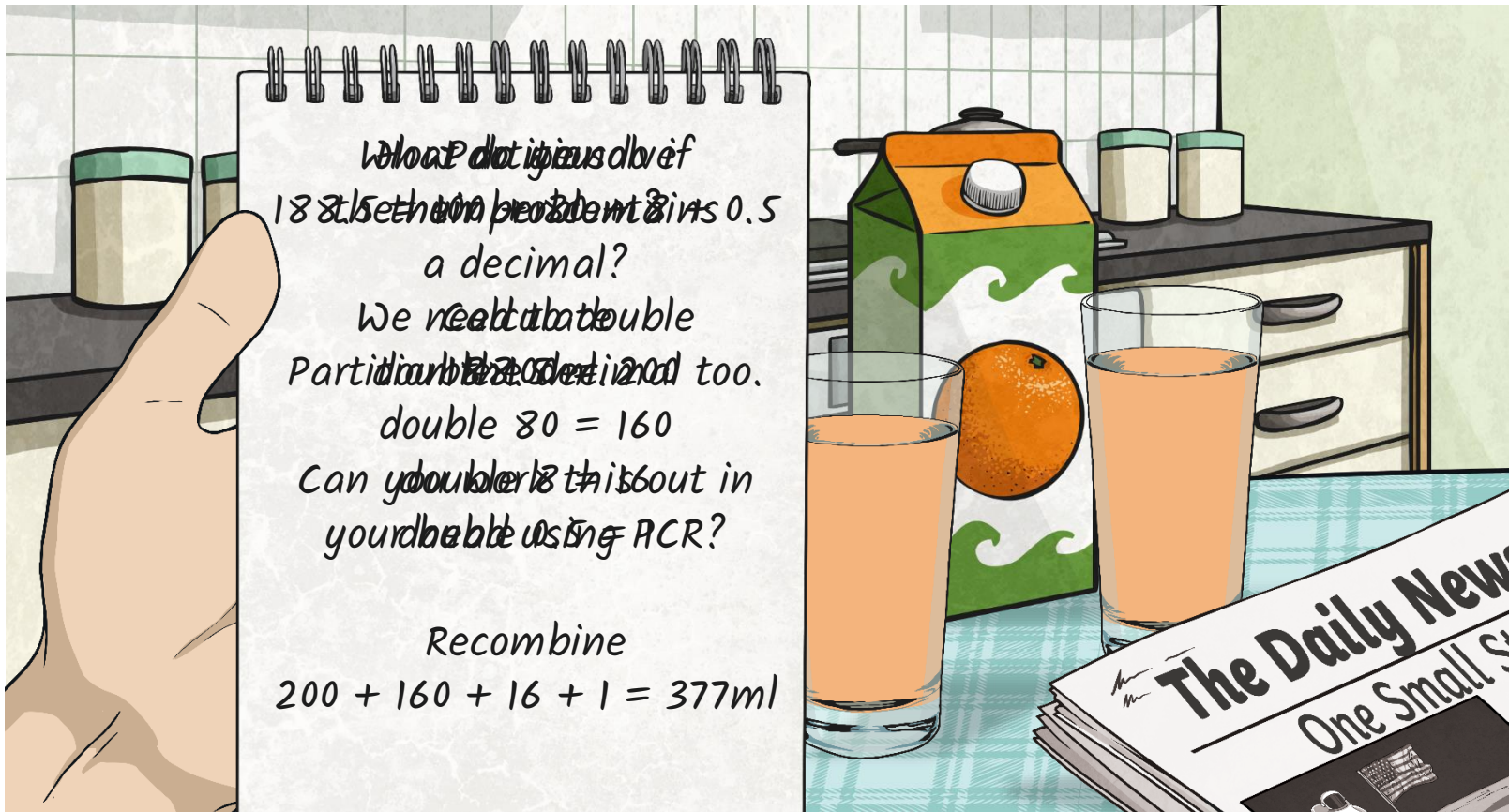
half of 98 452 = **49 226**



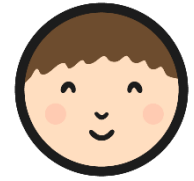
# Decimals



Haruki and Tarou are thirsty after their run. Their cups hold 188.5ml of squash each. How much squash do they need to make?



# Twins



Use your marvellous maths skills to complete these activity sheets:

## Twins

I can multiply and divide mentally using doubling and halving.

1) Haruki and Tarou's mum has to buy double the amount of everything for her twins! Help her out by doubling each of the items on her shopping list:

224.43g of rice	
355.62ml lemonade	
128.81ml milk	
290.37g chicken	
105.33ml soup	
542.13g bread	

2) Haruki and Tarou are great at sharing things! Work out how many of these things they will get each if they share them equally.

552 sweets	
£25.56 pocket money	
4 $\frac{1}{2}$ mini pizzas	
593 crisps	
6258 rice pops	
11 $\frac{1}{2}$ slices of bread	

3) Design a poster to explain how to halve and double numbers using PCR - partition, calculate and recombine.

## Twins

I can multiply and divide mentally using doubling and halving.

1) Haruki and Tarou's mum has to buy double the amount of everything for her twins! Help her out by doubling each of the items on her shopping list:

224.4g of rice	
355.6ml lemonade	
128.8ml milk	
290.3g chicken	
105.3ml soup	
542.1g bread	

2) Haruki and Tarou are great at sharing things! Work out how many of these things they will get each if they share them equally.

552 sweets	
£25.50 pocket money	
4 $\frac{1}{2}$ mini pizzas	
59 crisps	
625 rice pops	
11 slices of bread	

3) Design a poster to explain how to halve and double numbers using PCR - partition, calculate and recombine.

## Twins

I can multiply and divide mentally using doubling and halving.

1) Haruki and Tarou's mum has to buy double the amount of everything for her twins! Help her out by doubling each of the items on her shopping list:

224g of rice	
355ml lemonade	
1288ml milk	
293g chicken	
1053ml soup	
5421g bread	

2) Haruki and Tarou are great at sharing things! Work out how many of these things they will get each if they share them equally.

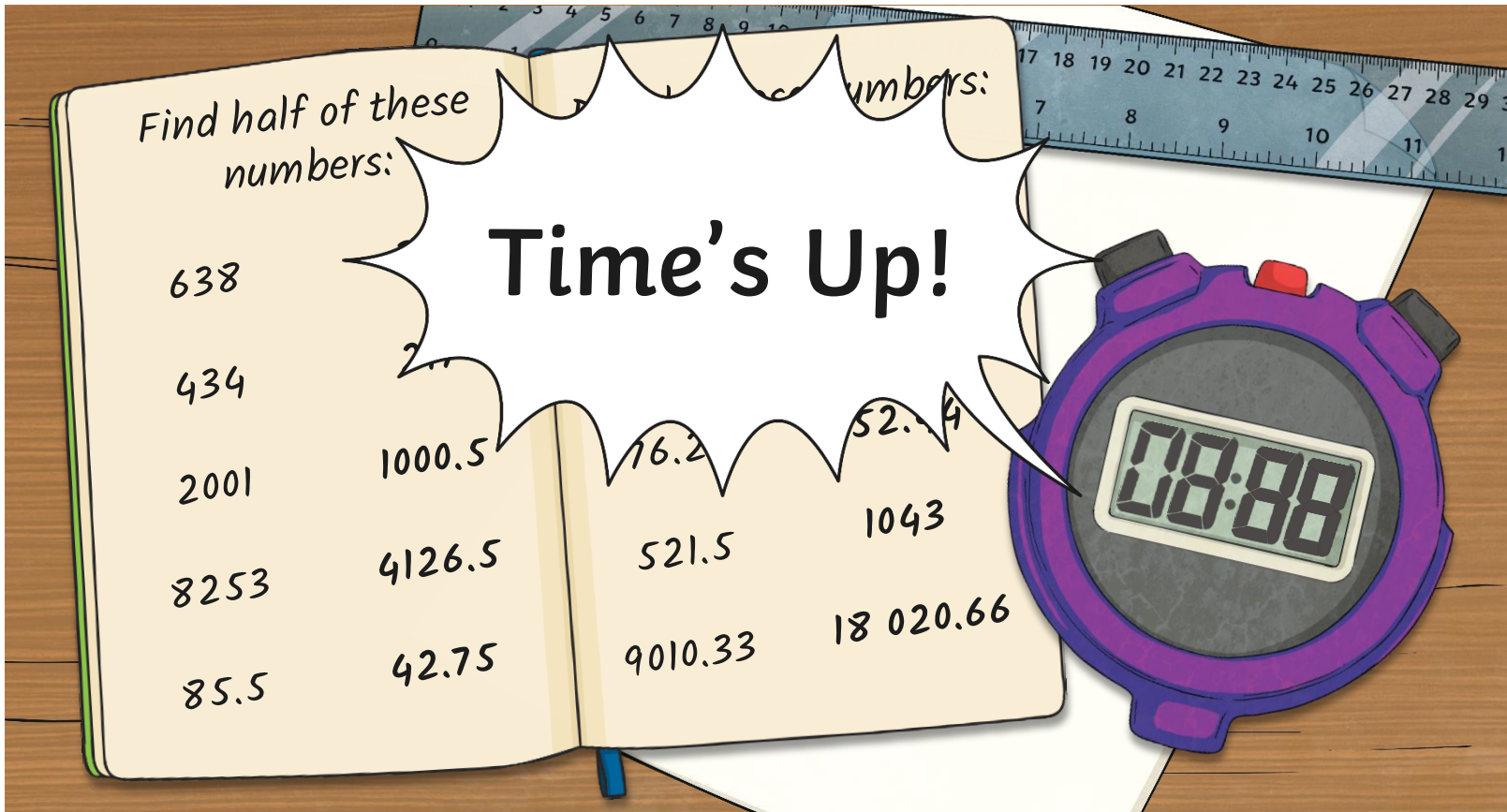
5520 sweets	
£26 pocket money	
4 $\frac{1}{2}$ mini pizzas	
524 crisps	
6248 rice pops	
11 slices of bread	

3) Design a poster to explain how to halve and double numbers using PCR - partition, calculate and recombine.

# Speed Challenge



How quickly can you halve and double these numbers?  
Click the stopwatch for a two minute countdown.  
Watch out! Some of them contain decimals.





# Aim



- I can multiply and divide mentally using doubling and halving.

# Success Criteria

- I can halve numbers by dividing them by two.
- I can double numbers by multiplying them by two.
- I can use partitioning and recombining to halve and double numbers up to four digits and numbers with decimals.

