

# The mean

## Notes and guidance

In the final small step in this block, children calculate and interpret the mean as an average.

Children may be familiar with the word “average”, but are less likely to have heard of the mean. Begin by discussing what an average is and why averages are useful to summarise sets of data. Explain that the most commonly used average is the mean and show how it is calculated, recapping addition and division skills if necessary. Using simple data in familiar contexts will help children to understand the concept. Using concrete representations to model sharing out items can help children to make sense of the formula:  $\text{mean} = \text{total number} \div \text{number of items}$ .

When children are confident in finding the mean, they can be challenged to find missing data values if the mean is known. Children need to recognise that the first thing they need to do is to multiply to find the total.

## Things to look out for

- Children may make calculation errors in the addition or division.
- Children may need support to realise they can “work backwards” to find the total when the mean is known.

## Key questions

- How can you calculate the total number of \_\_\_\_\_?
- What operation do you use to share equally?
- How can you use the total to calculate the mean?
- Why would you want to find the mean of a set of data?
- For what sets of data would it be useful to calculate the mean?
- How can you use the mean to work out missing information?

## Possible sentence stems

- The mean is the size of each part when the whole is shared \_\_\_\_\_
- The total is \_\_\_\_\_  
There are \_\_\_\_\_ numbers.  
Mean = \_\_\_\_\_  $\div$  \_\_\_\_\_

## National Curriculum links


































- Calculate and interpret the mean as an average

# The mean

## Key learning

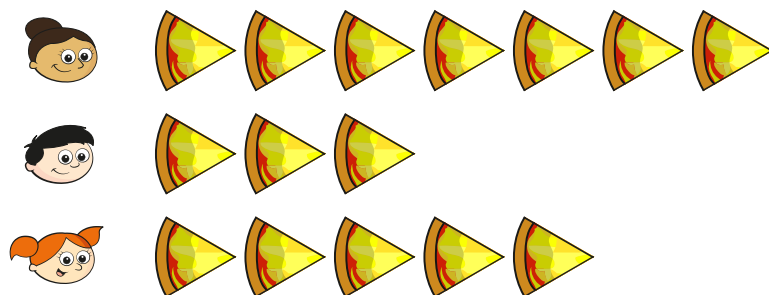
- Three children each drink some glasses of juice.

The table shows a method to find the mean number of glasses of juice that each child had to drink.

Number of glasses per child	Total number of glasses	If each child had the same number of glasses
    	   	   
   	  	   
  	 	   

How does the table show that the mean number of glasses that each child had is 3?

- Work out the mean number of slices of pizza eaten by each child.



- Here are the number of runs Jack scored in seven cricket matches.

134, 60, 17, 63, 38, 84, 10

Calculate the mean number of runs Jack scored in a match.

- The amount of money raised for charity by five children is shown in the table.

Child	Amount raised
Aisha	£24.55
Sam	£29.60
Tommy	£40
Filip	£21.20
Scott	£19.65

What is the mean amount of money raised by the children?

- Calculate the mean of the numbers.

0.145

0.05

0.28

0.205

# The mean

## Reasoning and problem solving

The mean number of goals scored in six football matches was 4

Use this information to work out how many goals were scored in the 6th match.

Match	Number of goals
1	8
2	4
3	6
4	2
5	1
6	

3

Rosie takes 5 spelling tests.

Her mean score is 7

What scores might Rosie have got in each spelling test?

Compare answers with a partner

any set of 5  
numbers that  
totals 35

- Mum is 48 years old.
- Scott is 4 years older than James.
- James is 7 years older than Esme.

The average age of pairs of family members are shown.

Mum } mean age of 50  
Dad }

Scott } mean age of 13  
James }

Anna } mean age of 6  
Esme }

Mum: 48 years

Dad: 52 years

Scott: 15 years

James: 11 years

Anna: 8 years

Esme: 4 years

23 years

Work out the age of each member of the family.

Work out the mean age of the whole family.