

Diving into Mastery



# Introducing Line Graphs

# Diving into Mastery Guidance for Educators

Each activity sheet is split into three sections, diving, deeper and deepest, which are represented by the following icons:



**Diving**



**Deeper**



**Deepest**

These carefully designed activities take your children through a learning journey, initially ensuring they are fluent with the key concept being taught; then applying this to a range of reasoning and problem-solving activities.

These sheets might not necessarily be used in a linear way. Some children might begin at the 'Deeper' section and in fact, others may 'dive straight in' to the 'Deepest' section if they have already mastered the skill and are applying this to show their depth of understanding.

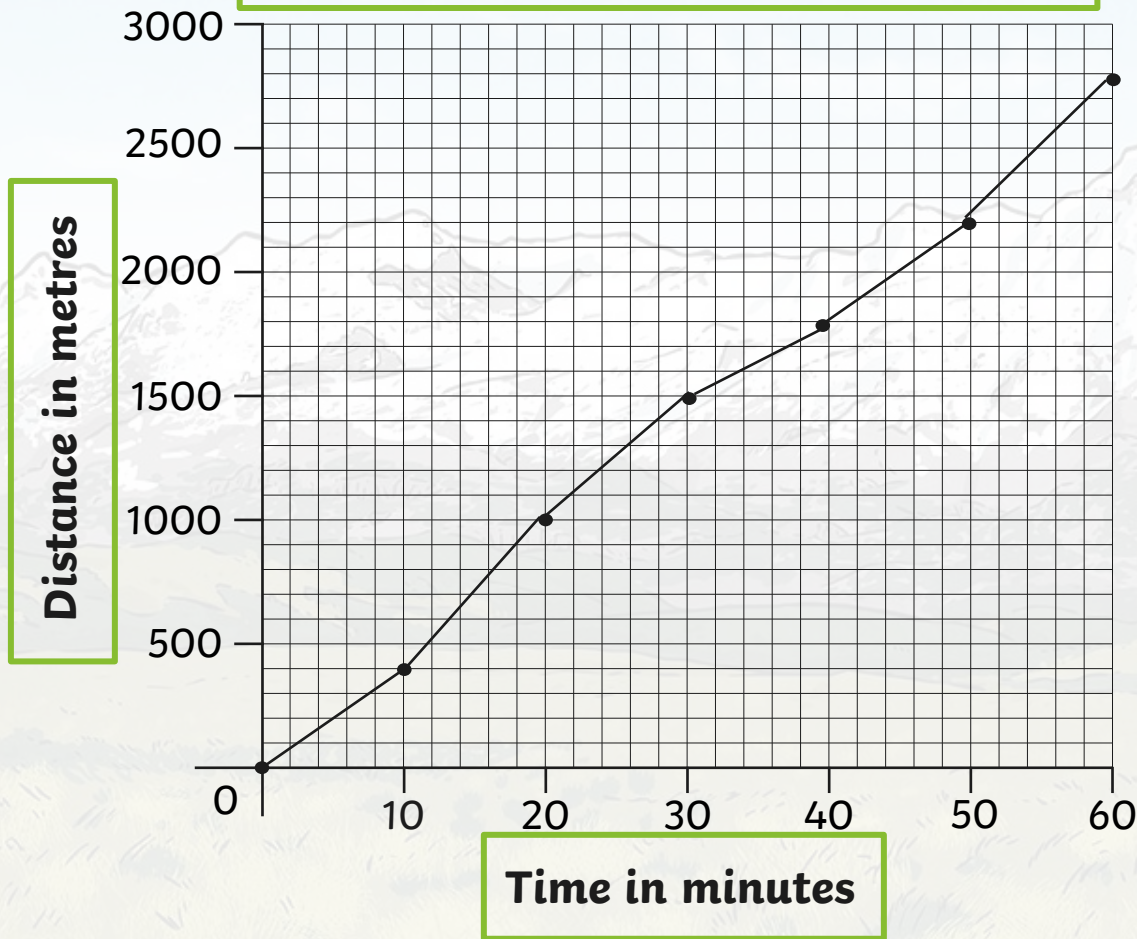
# Aim

- Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.





How Far a Family Cycled over an Hour



What information is missing from this graph?

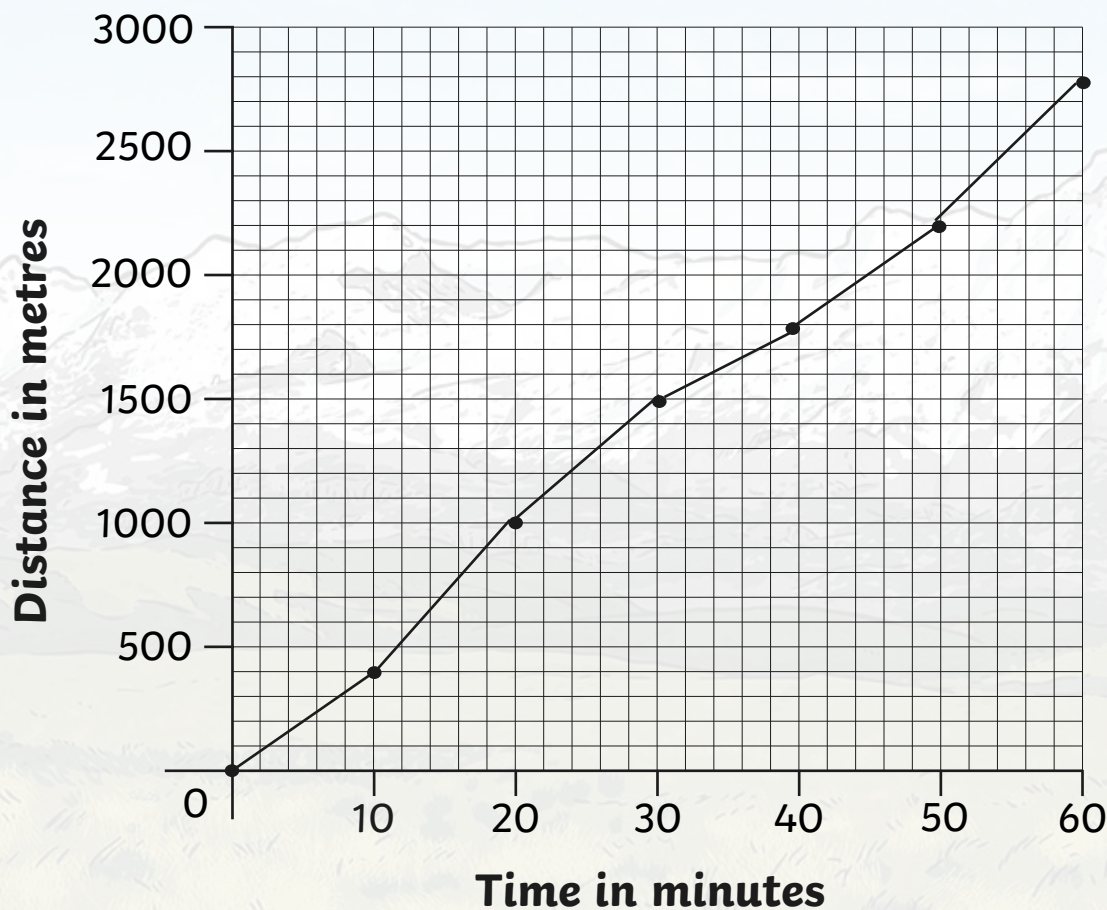
Title

Label

Label



How Far a Family Cycled over an Hour

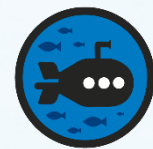


How far had the family cycled after 30 minutes?

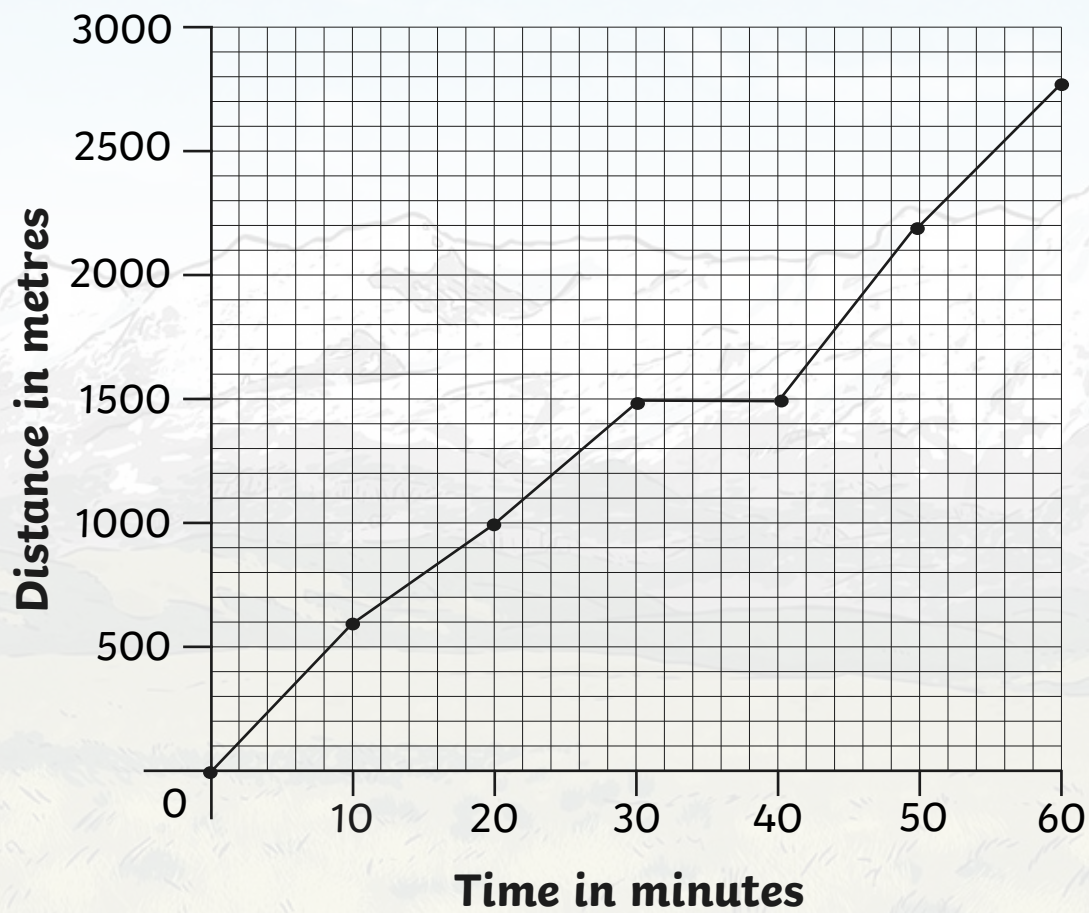
1500 metres

After how long did they reach 2000 metres?

45 minutes



How Far a Family Cycled over an Hour



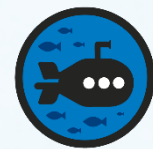
Use this line graph to answer these questions.

Estimate how far the family had cycled after 25 minutes?

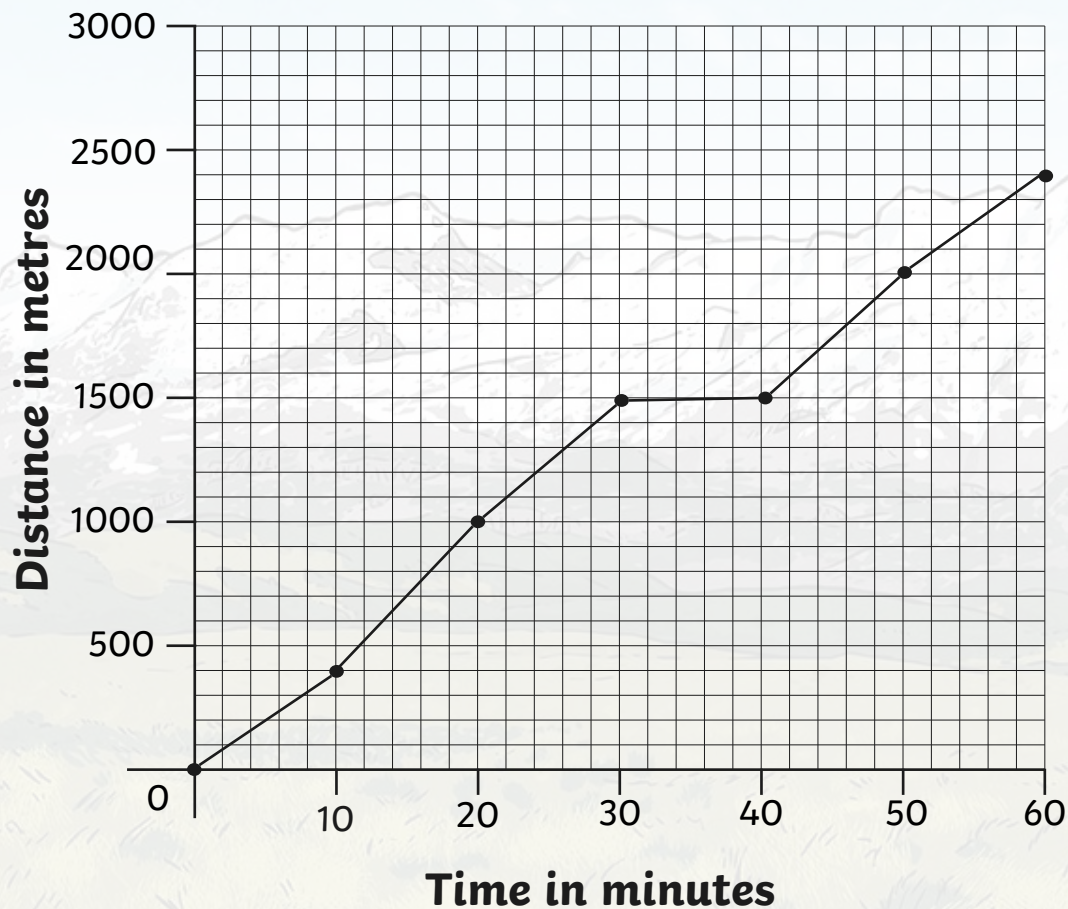
1250 metres

One rider had to stop to change a tyre. When was this?

30-40 minutes in



How Far a Family Cycled over an Hour



When did the family cycle most slowly?

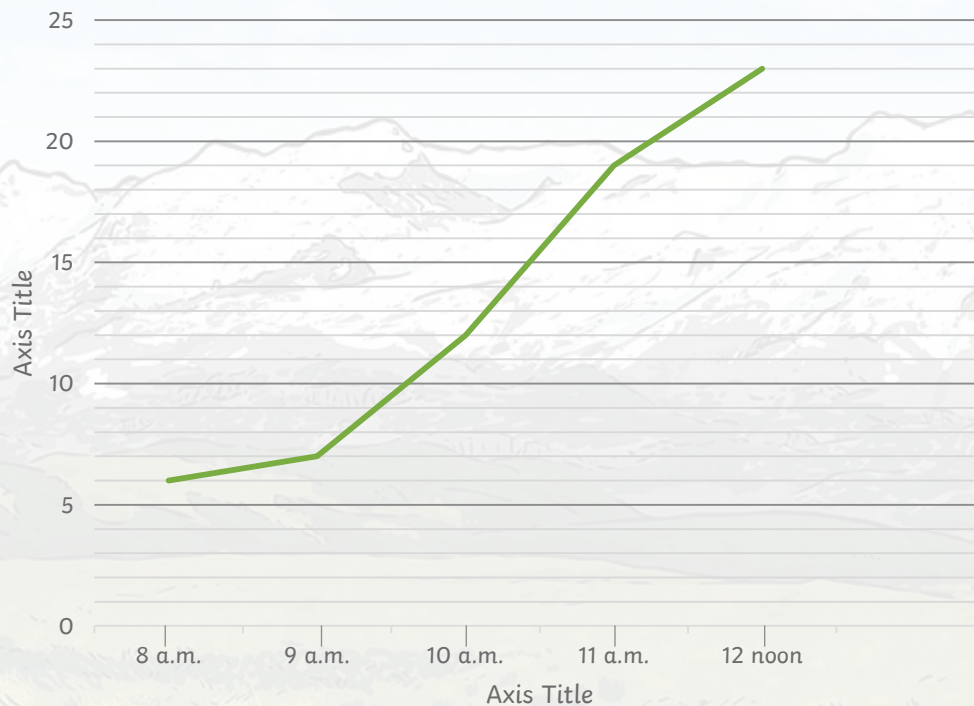
Between 0 and 10 minutes and 50 and 60 minutes

How do you know?

We can see the line is less steep, meaning they travelled a shorter distance in the first and last 10 minutes.



Number of People in the Park on a Morning



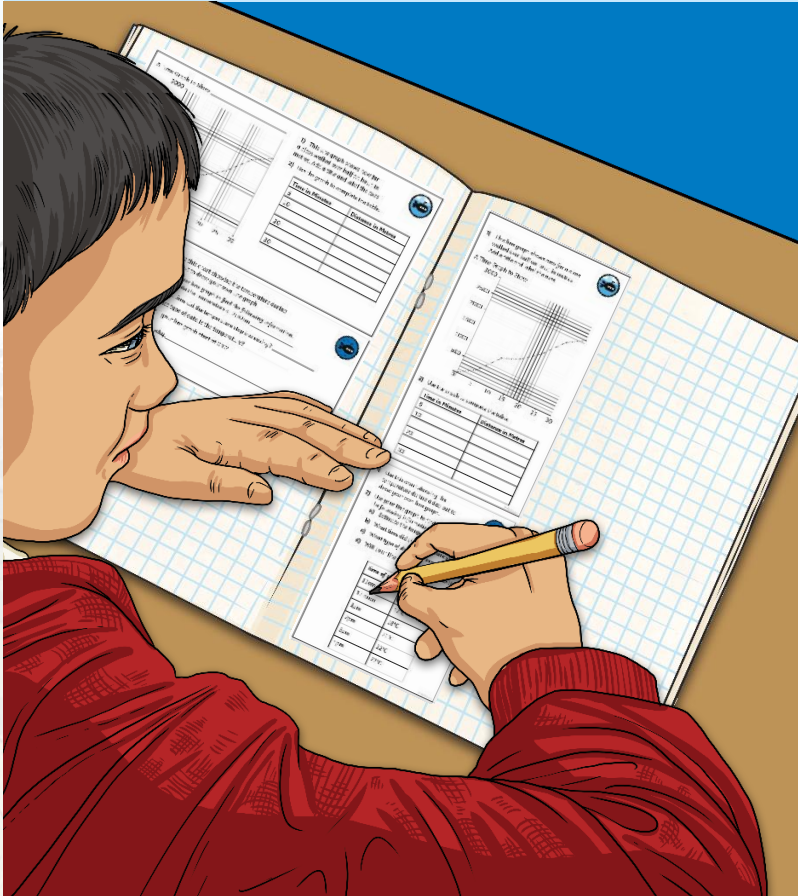
Can this graph tell us how many people were in the park at 10:30?

No. We can estimate the number of people to be between 15 and 16 but since we cannot have half a person we cannot say exactly how many were there at 10:30.



# Introducing Line Graphs

Dive in by completing your own activity!



**Number of People in the Class**

3) Is there a better way of displaying this data?

4) Will said, "I know that only 1 person left the class at 10am. What other explanations for this could there be?"

**A Time Graph to Show**

1) This line graph shows how far a class walked over half an hour in metres. Add a title and label the axes.

2) Use the graph to complete the table.

Time in Minutes	Distance in Metres
5	
10	
20	
30	

**Time of Day**

11am	12°C
12 noon	17°C
1pm	18°C
2pm	21°C
3pm	22°C
4pm	22°C

1) Use this chart showing the temperature during a day and to draw your own line graph.

2) Use your line graph to find the following information.

a) Estimate the temperature at 2:30pm.

b) What time did the temperature stop increasing? \_\_\_\_\_

c) What type of data is the temperature?

4) Will your line graph start at 0°C? \_\_\_\_\_

Explain why. \_\_\_\_\_

# Need Planning to Complement this Resource?

## National Curriculum Aim

Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.

For more planning resources to support this aim, [click here](#).

**Colour Car Investigation**  
Data that is counted and has no intervals is called discrete data. Help the class to answer these questions about their discrete data.

Colour	Tally	Frequency
Red		4
Blue		4
Black		4
Other		4

Which colour of car passed by the school?

**Transport Statistics**

**Pictograms**  
The children in Class 4 have carried out a different investigation and presented it as a pictogram. A Pictogram to show how the Children in Class 4 Travel to School.

Key: 2 children

Mode of Transport	Number of Children
Walk	4
Bus	4
Car	4
Train	4
Other	4

**Statistics: Transport Stat**

**Transport Statistics**

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**Ice Cream Statistics**  
I can present information in a bar chart.

Present the data showing cream flavours as a bar chart:

Ice Cream Flavour	Number of Boys
Vanilla	4
Strawberry	1
Chocolate	3
Mint	5
Toffee	1
Caramel	2

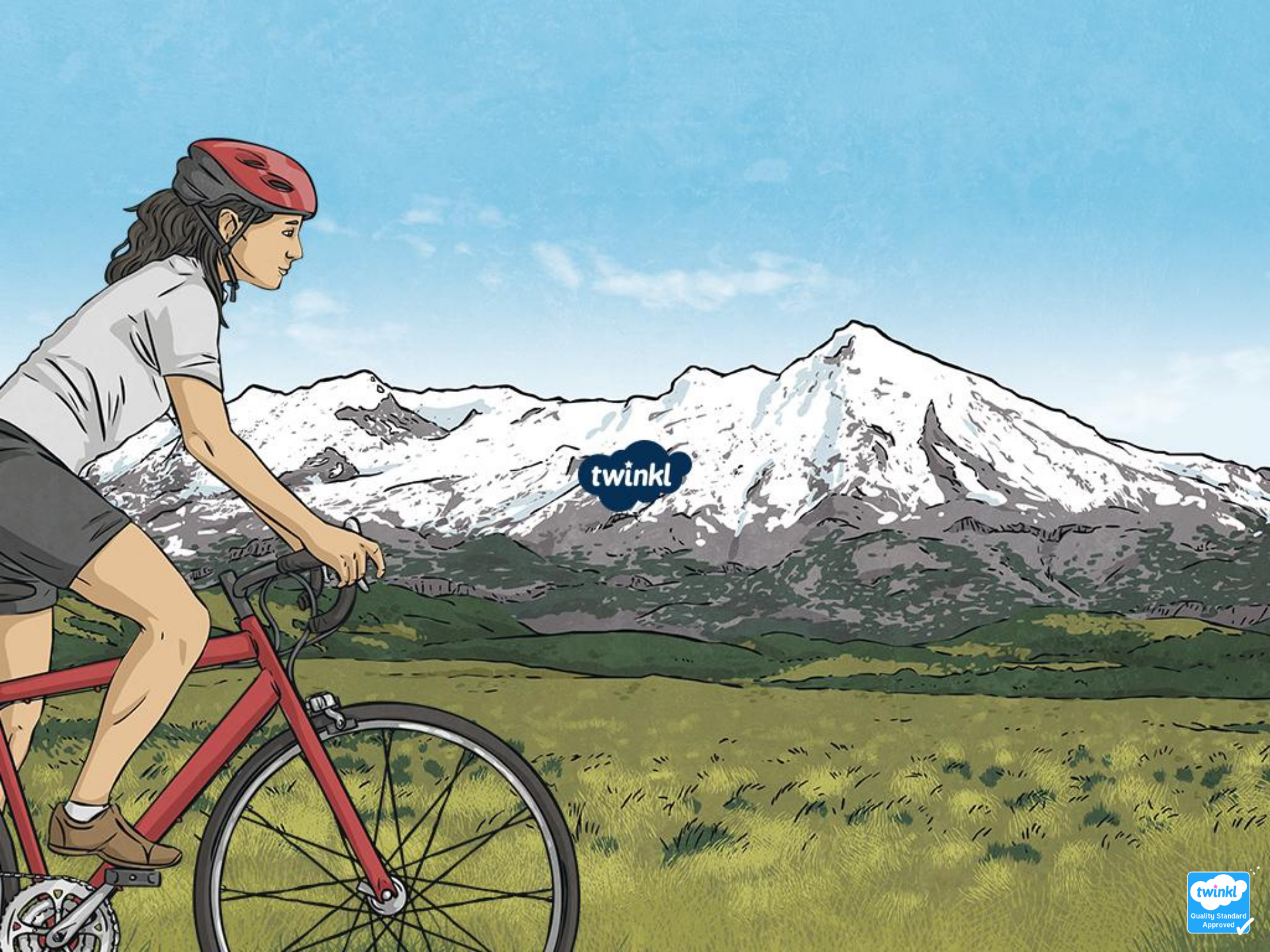
Present the data showing Class 4's favourite ice cream flavours as a bar chart:

Ice Cream Flavour	Number of Children
Vanilla	7
Strawberry	6
Chocolate	5
Mint	8
Toffee	5
Caramel	4

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