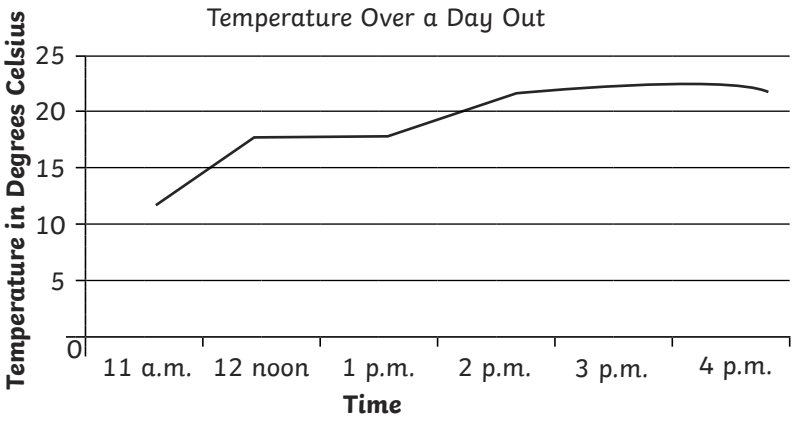
1) Children should add a title (example: How far a class walked over half an hour, in metres); x-axis label (example: time in minutes); y-axis (example: distance walked in metres).

2)

Time in Minutes	Distance in Metres
5	300m
10	900m
15	1100m
20	1500m
25	2100m
30	2400m

1) Example of the line graph that children should have drawn.



2) **a)** 21.5°C

b) 3 p.m.

c) Continuous

d) No: Answers could include- because it is unlikely that the temperature was 0° on a day that reached 22. There is no data which says that the temperature was 0° on that day.

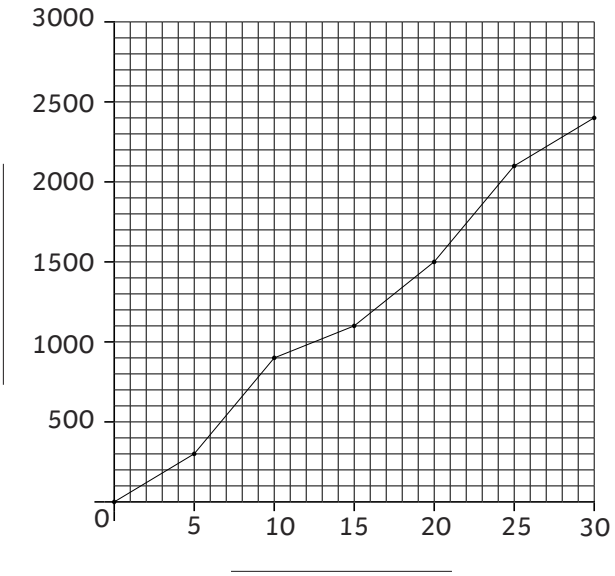
1) 10 a.m. and 11 a.m. The line increases most steeply.

2) There can't be half a person in a park - this is discrete data.

3) Children should suggest bar charts or tables as a way of presenting discrete data and show appropriate charts and graphs displaying the data.

4) No - she can't know this for certain. Example: 3 people could have left and 4 people could have arrived.

A Line 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	Temperature
11 a.m.	12°C
12 noon	17°C
1 p.m.	18°C
2 p.m.	21°C
3 p.m.	22°C
4 p.m.	22°C

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

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

a) Estimate the temperature at 2:30 p.m. _____

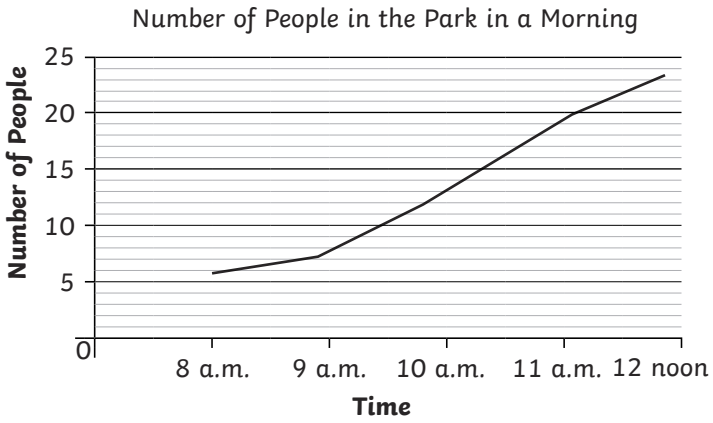
b) What time did the temperature stop increasing? _____

c) What type of data is the temperature? _____

d) Will your line graph start at 0°C? _____

Explain why._____

_____



This graph shows the number of people walking through the park one morning.

1) Between which times did the visitor numbers increase the most? _____

2) Lucy said, "The number of visitors at 8:30 a.m. was 6 and a half." Why is Lucy wrong?

_____

_____

3) Is there a better way of displaying this data to avoid a mistake like this one?

_____

_____

4) Will said, "I know that only 1 person arrived at the park between 8 a.m. and 9 a.m." Is he correct? _____

What other explanations for the change in number of visitors are there?

_____

_____

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

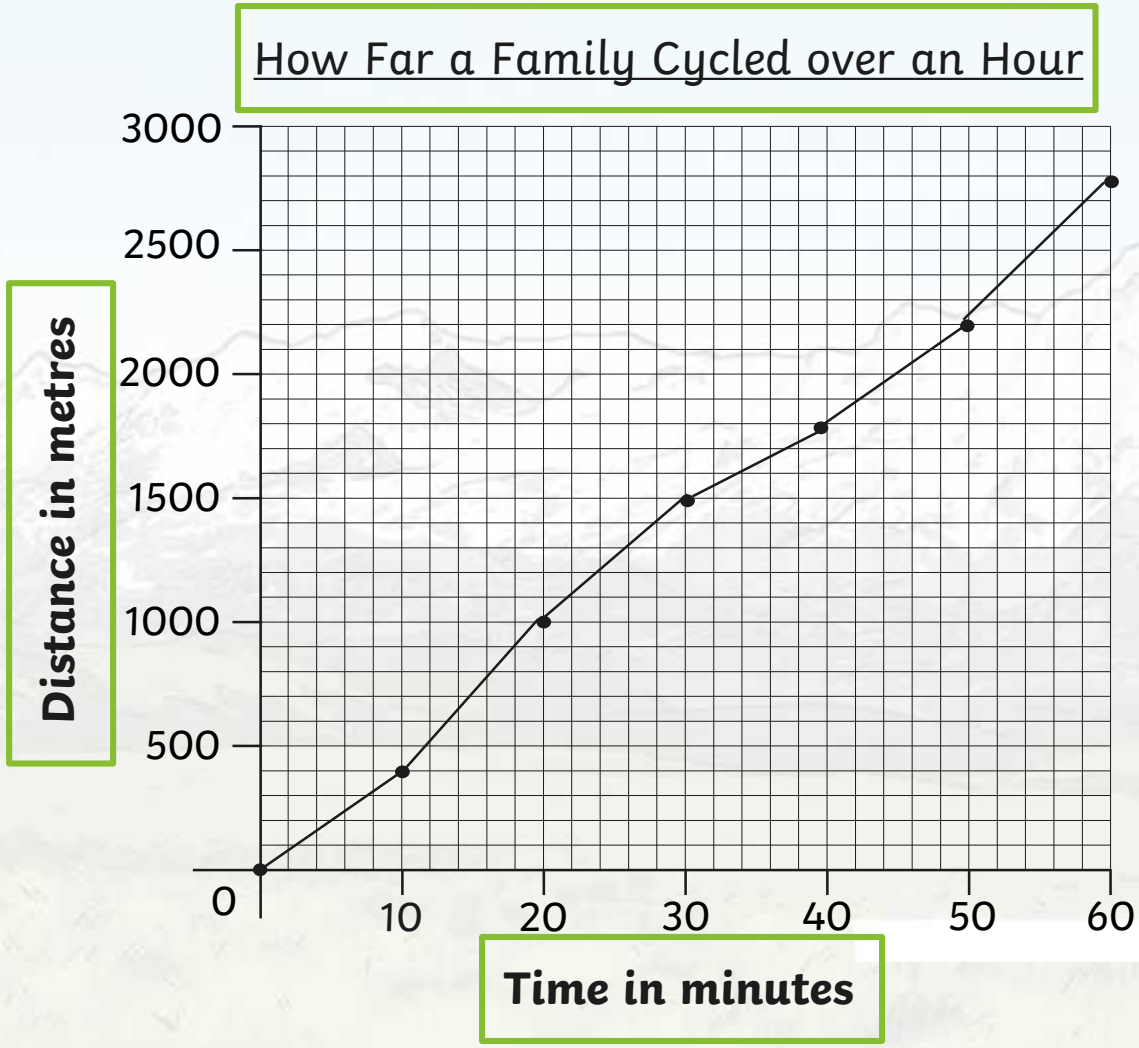
These carefully designed activities take your children through a learning journey, initially ensuring they are fluent with the key concept being taught; then applying this to a range of reasoning and problem-solving activities.

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.

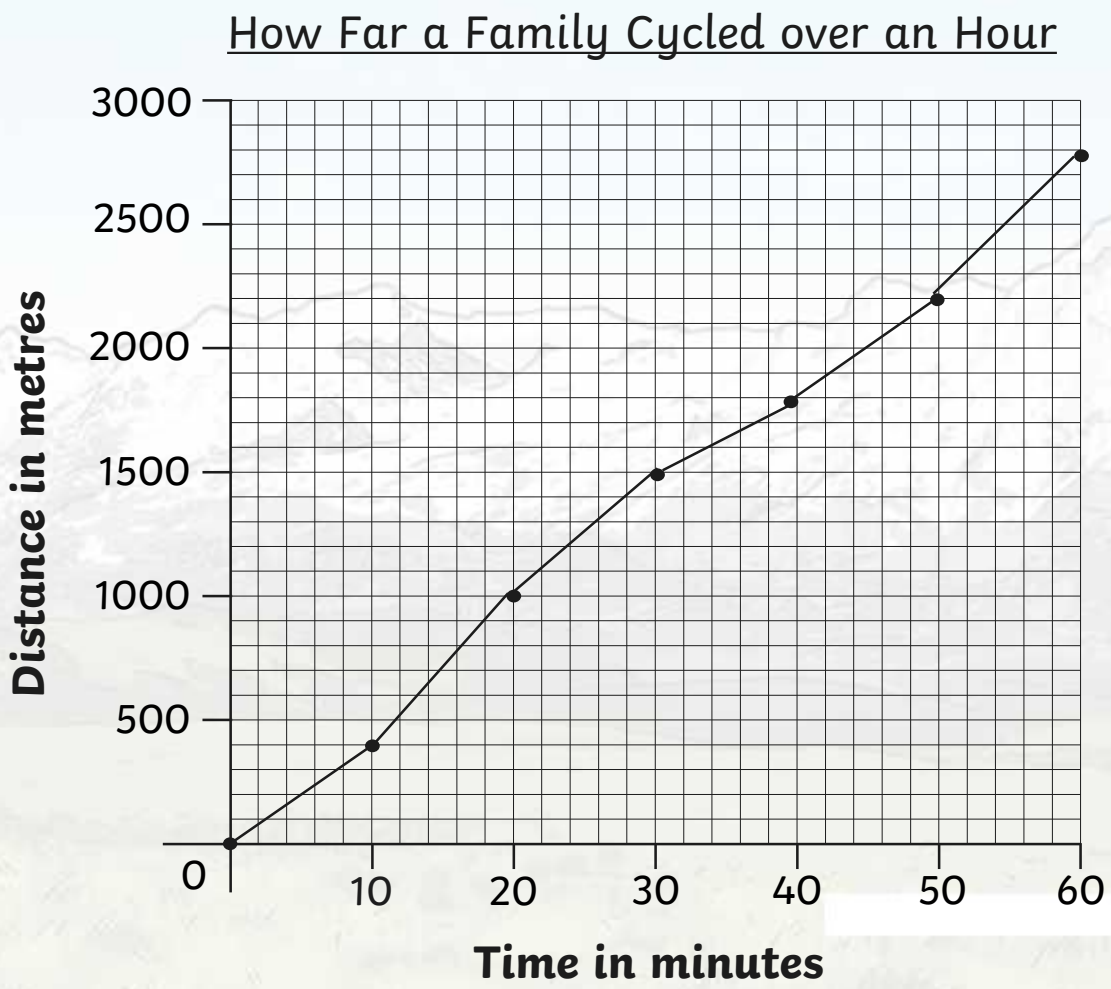
Introducing Line Graphs | **Diving**



What information is missing from this graph?

- Title
- Label
- Label

Introducing Line Graphs | **Diving**



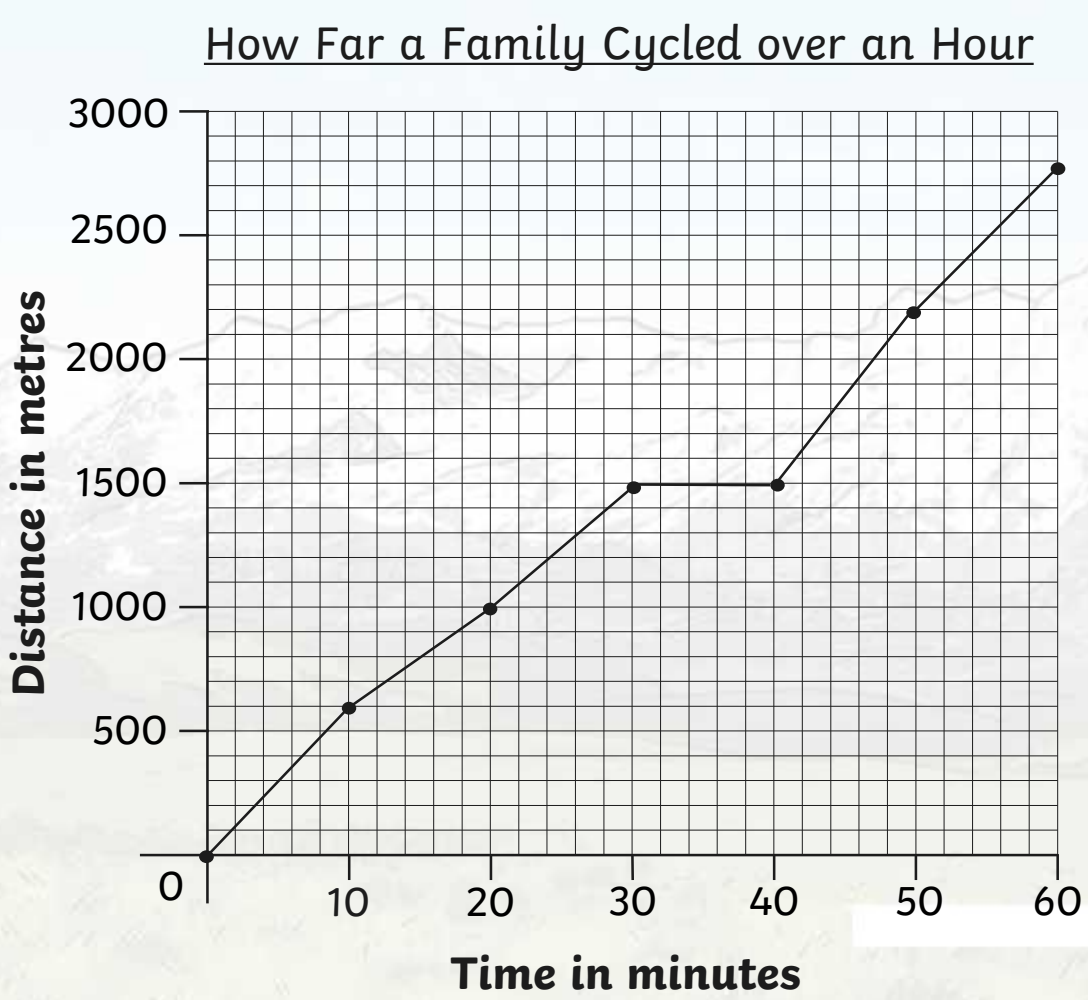
How far had the family cycled after 30 minutes?

1500 metres

After how long did they reach 2000 metres?

45 minutes

Introducing Line Graphs | **Deeper**



Use this line graph to answer these questions.

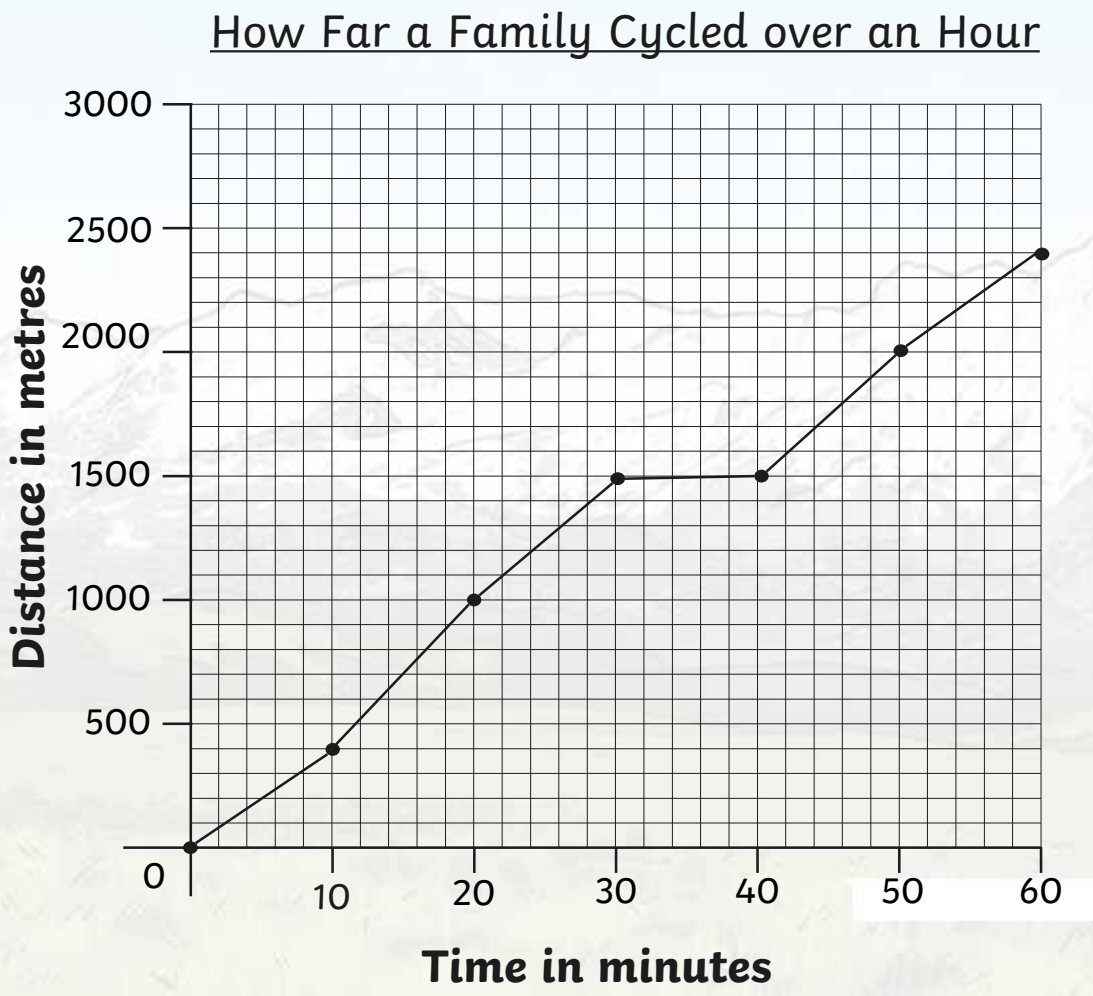
Estimate how far the family had cycled after 25 minutes?

1250 metres

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

30-40 minutes in

Introducing Line Graphs | **Deeper**



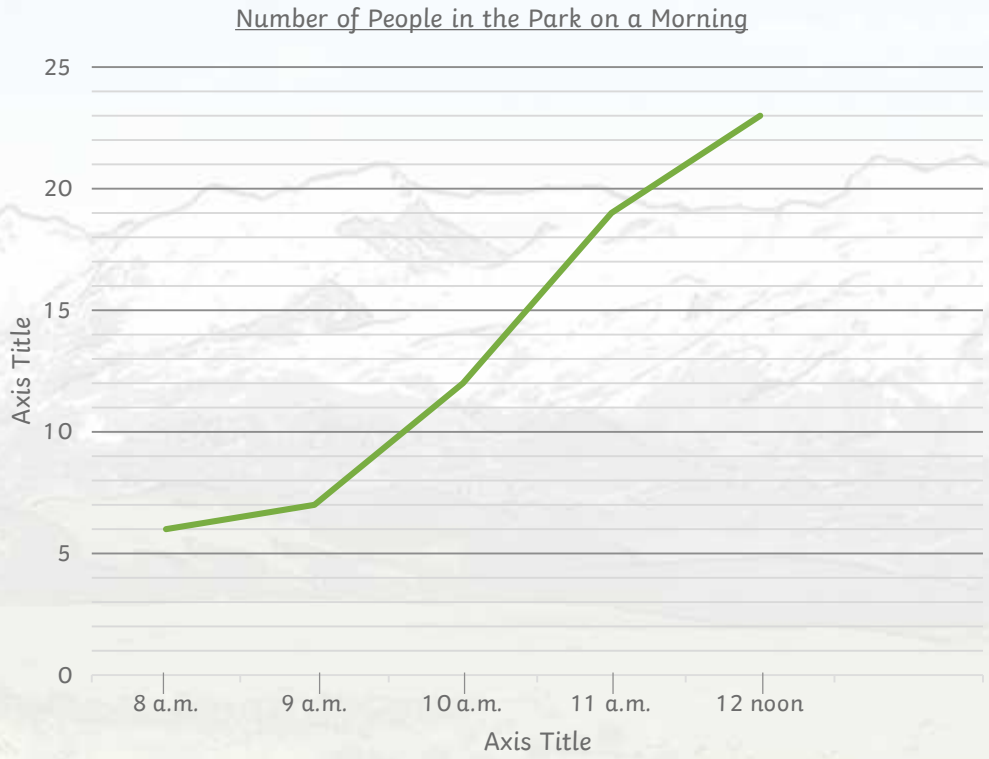
When did the family cycle most slowly?

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.

Introducing Line Graphs | Deepest

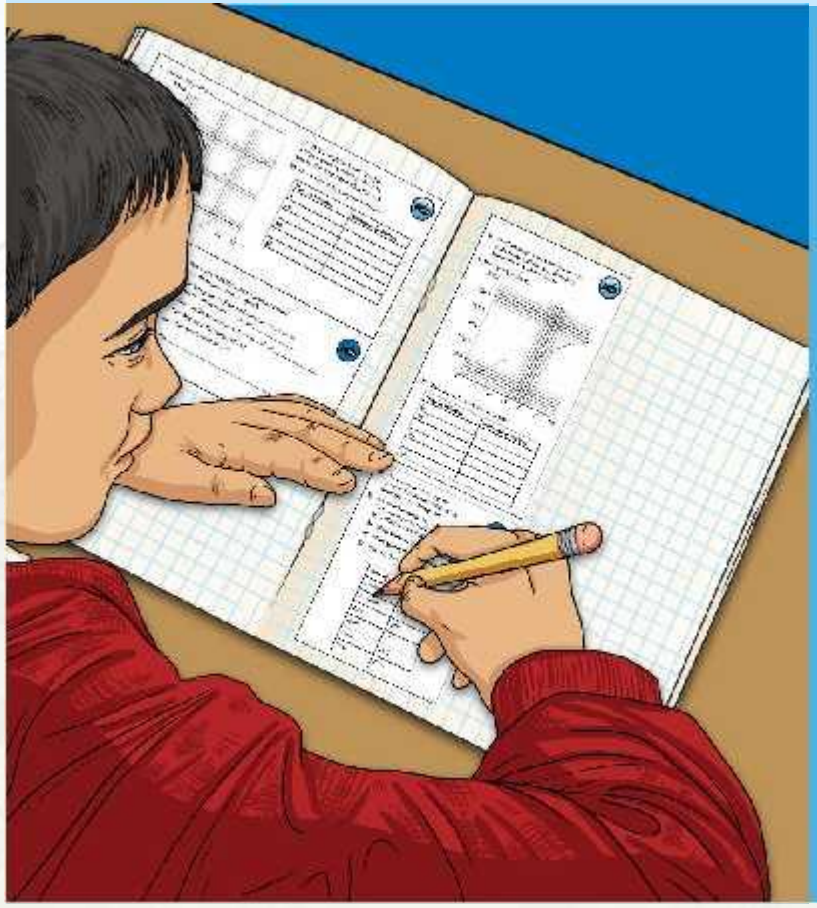


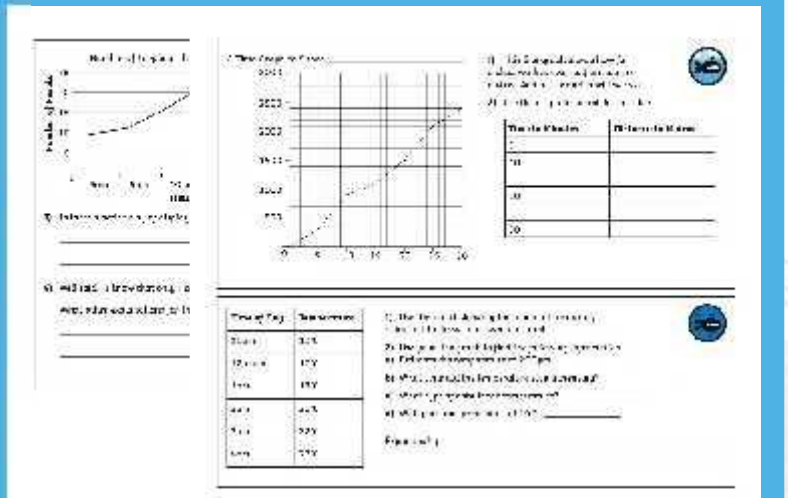
Can this graph tell us how many people were in the park at 10:30?

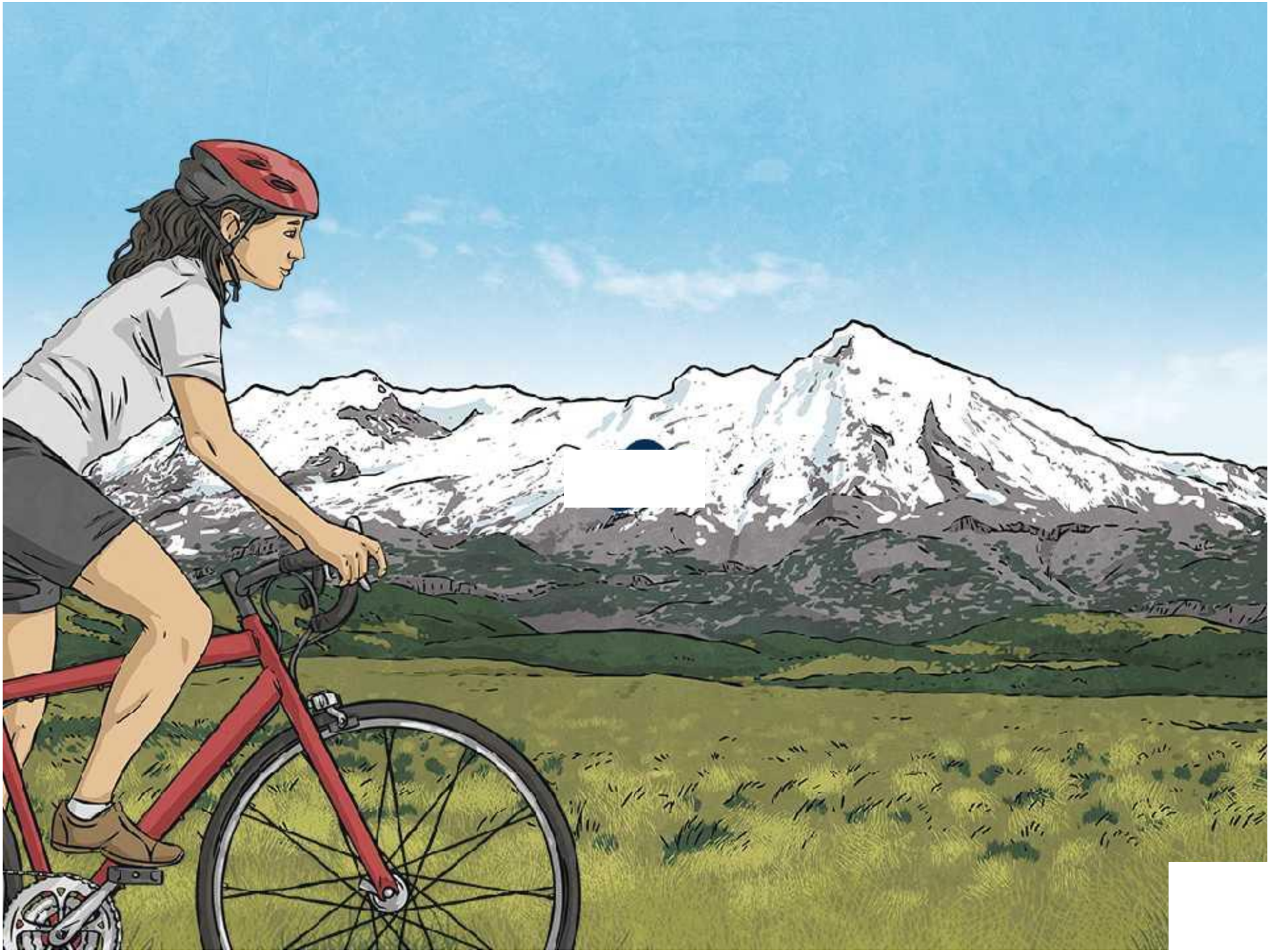
No. We can estimate the number of people to be between 15 and 16 but since we cannot have half a person we cannot say exactly how many were there at 10:30.

Introducing Line Graphs

Dive in by completing your own activity!







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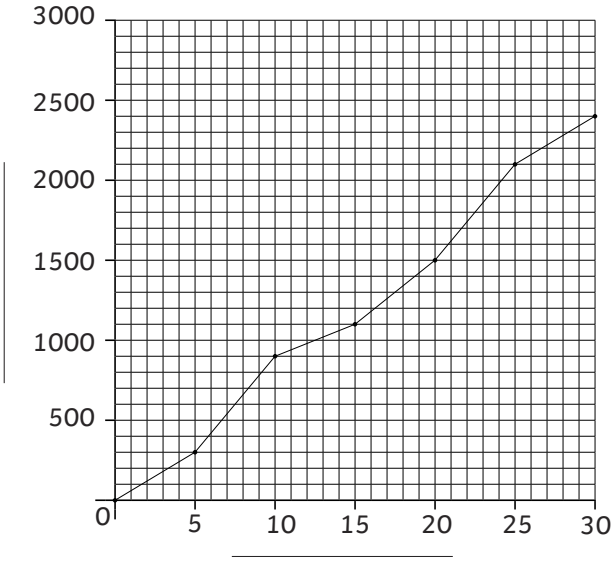
A Line Graph to Show _____



2) Use the graph to complete the table.

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5	
10	
20	
30	

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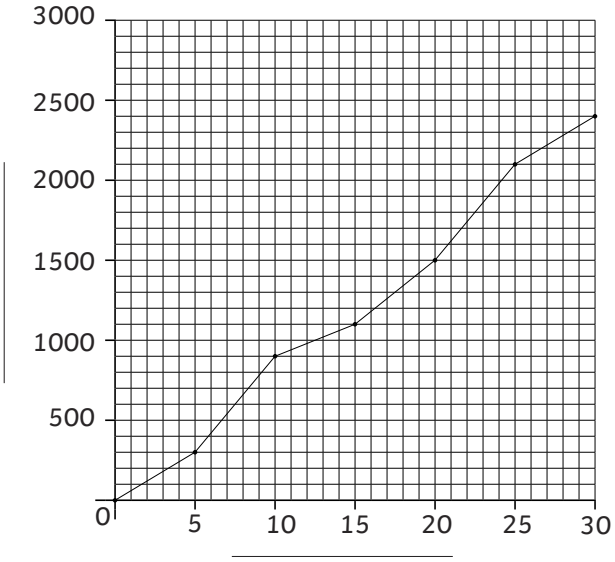

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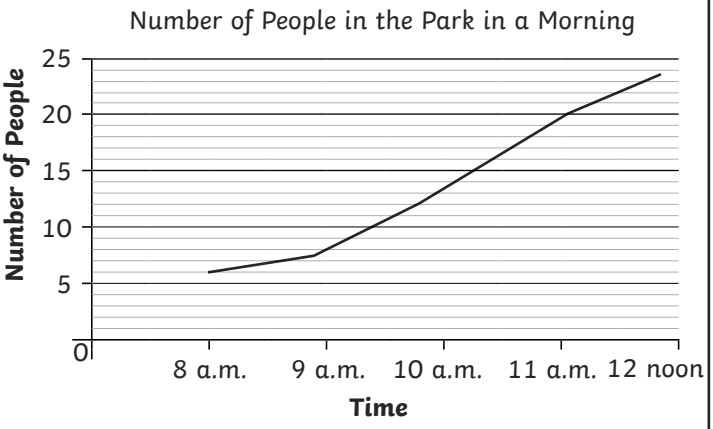
Regent Studies | www.regentstudies.com

This graph shows the number of people walking through the park one morning.



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5) What other explanations for the change in number of visitors are there?

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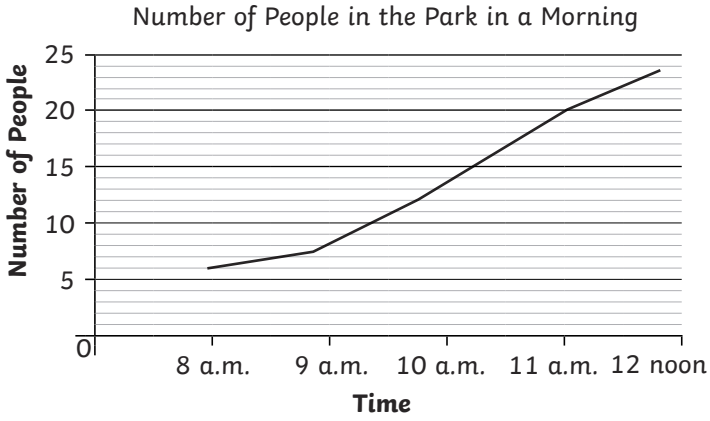

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