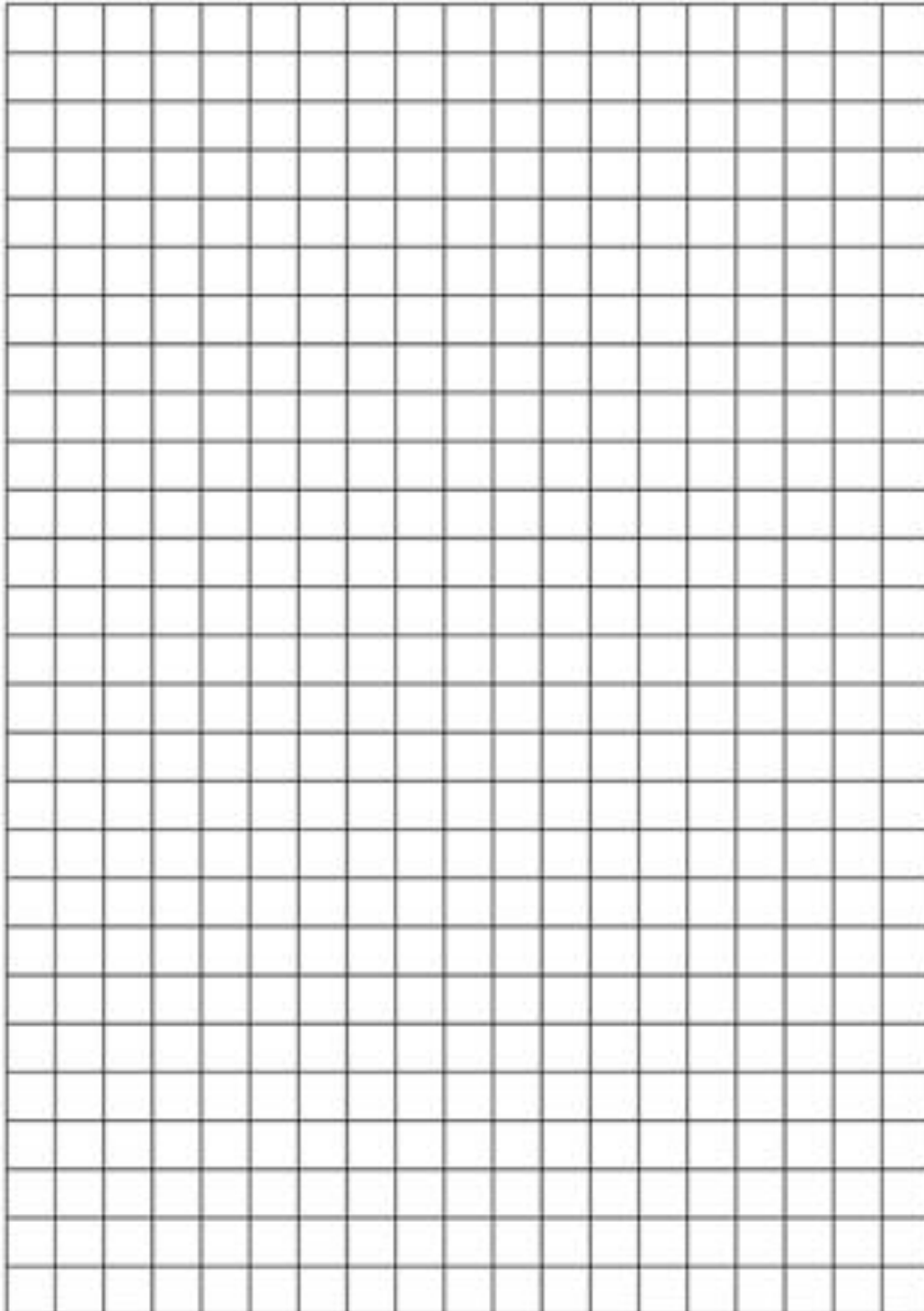


**Please watch the video of Mr Howick or Miss Robinson first.**

Time of the day	Temperature in London on 25 <sup>th</sup> June 2020
6.00am	19
8.00am	24
10.00am	27
12.00pm	29
2.00pm	32



# Introduction to Statistics

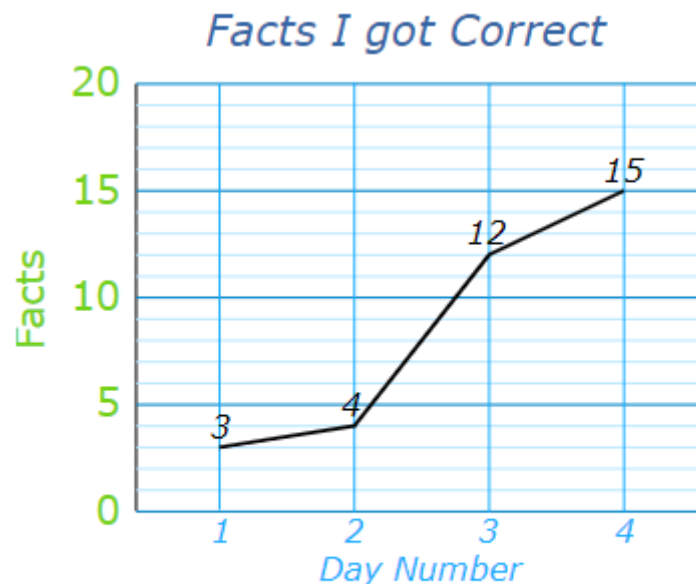
## What is a Line Graph?

A Line Graph is a graph that shows information that is connected in some way (such as change over time).

You are learning facts about dogs, and each day you do a short test to see how good you are. These are the results:

Day 1	Day 2	Day 3	Day 4
3	4	12	15

And here is the same data as a Line Graph:



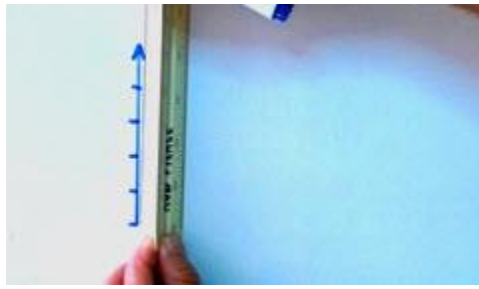
You seem to be improving!

## Making Line Graphs

Example: Ice Cream Sales

Mon	Tue	Wed	Thu	Fri	Sat	Sun
\$410	\$440	\$550	\$420	\$610	\$790	\$770

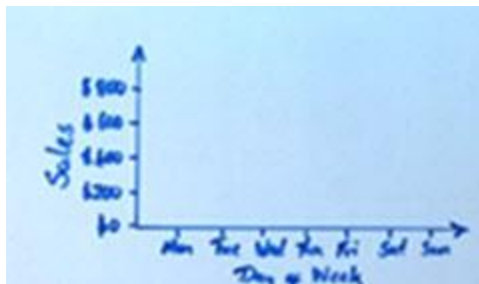
Let's make the vertical scale go from \$0 to \$800, with tick marks every \$200



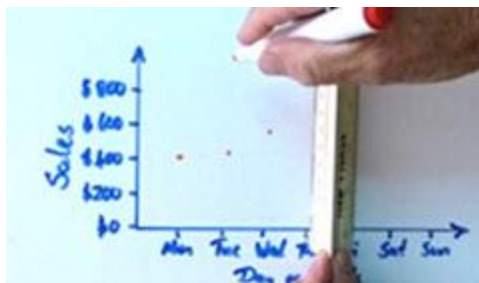
Draw a vertical scale with tick marks



Label the tick marks, and give the scale a label



Draw a horizontal scale with tick marks and labels



Put a dot for each data value



Connect the dots and give the graph a title

**Important! Make sure to have:**

- A Title
- Vertical scale with tick marks and labels
- Horizontal scale with tick marks and labels

- Data points connected by lines

### What is Discrete Data

Discrete Data can only take certain values.

**Example: the number of students in a class**

We can't have half a student!

**Example: the results of rolling 2 dice**

Only has the values 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 and 12

### What is Continuous Data



Continuous Data can take any value (within a range)

Examples:

- A person's height: could be any value (within the range of human heights), not just certain fixed heights,
- Time in a race: you could even measure it to fractions of a second,
- A dog's weight,
- The length of a leaf,
- Lots more!

# Maths Activity 1:

The graph shows the temperature in the playground during a morning in April.

Time	Temperature (°C)
9 a.m.	9
10 a.m.	8
11 a.m.	6
12 noon	4

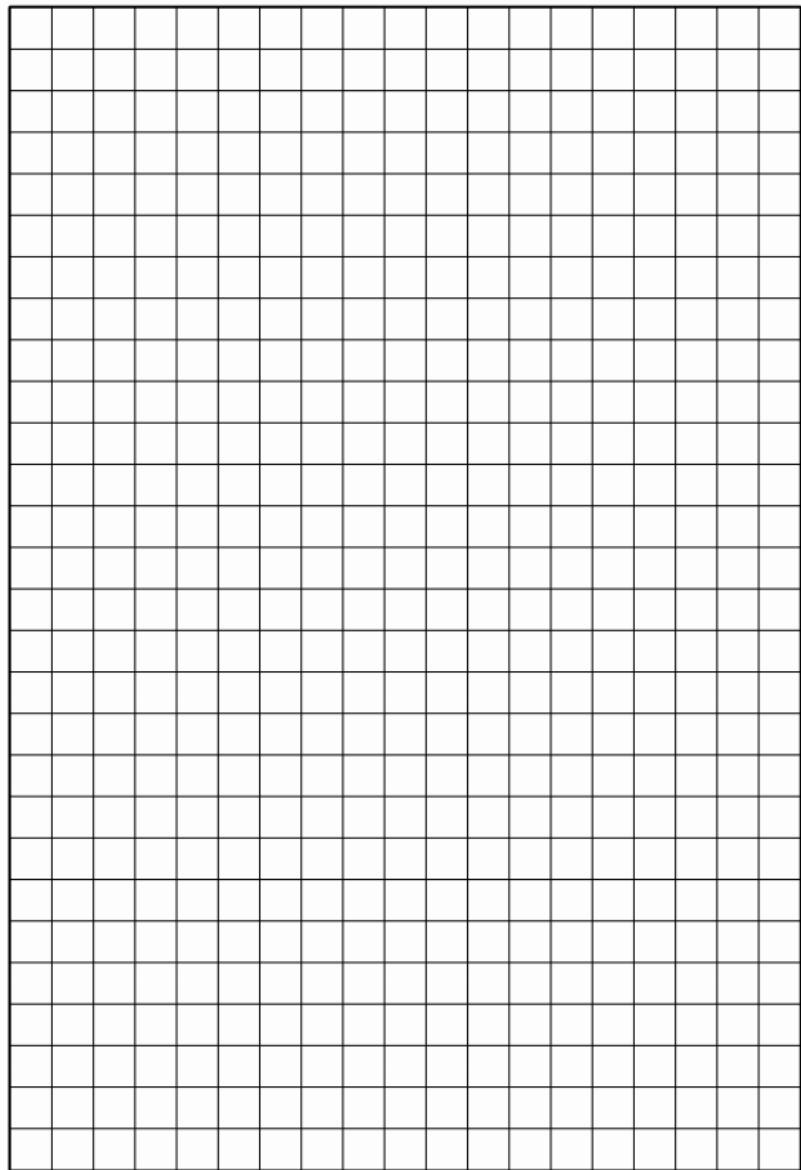
The temperature at 9 a.m. is \_\_\_\_\_ degrees.

The warmest time of the morning is \_\_\_\_\_.

Class 4 grew a plant. They measured the height of the plant every week for 6 weeks. The table shows the height of the plant each week.

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
4 cm	7 cm	9 cm	12 cm	14 cm	17 cm

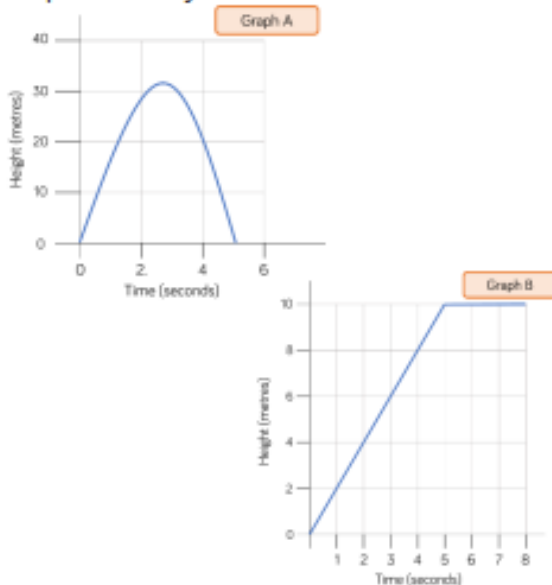
Create a line graph to represent this information. What scale would you use on the x and y axes? Between which two weeks did the plant reach a height of 10 cm?



Jack launched a toy rocket into the sky. After 5 seconds the rocket fell to the ground.

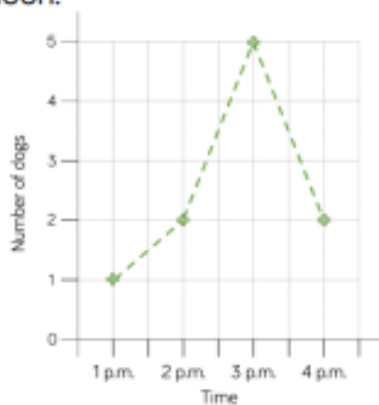
Which graph shows this?

Explain how you know.



Make up your own story for the other graph.

Tommy created a line graph to show the number of dogs walking in the park one afternoon.



Tommy says,



At half past one there are 1.5 dogs in the park.

Why is Tommy incorrect?

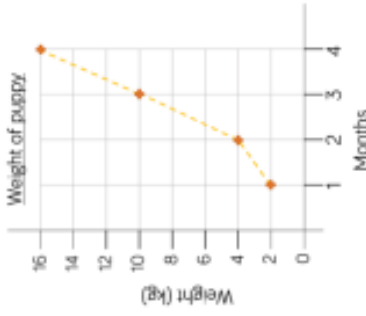
What would be a better way of presenting this data?

# Maths Activity 2:

The graph shows the weight of a puppy as it grows.

When the puppy is \_\_\_ months old the weight is \_\_\_ kg

Between month \_\_\_ and month \_\_\_ the puppy increased by \_\_\_ kg

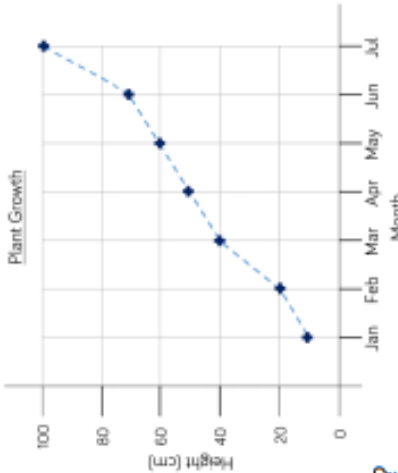


Months	Weight (kg)
1	2
2	4
3	10
4	16

9

The graph shows the growth of a plant over 6 months.

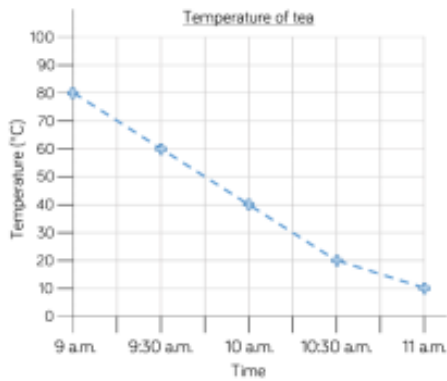
- How tall was the plant when it was measured in May?
- In what month did the plant first reach 50 cm?
- How many centimetres did the plant grow between March and July?
- What was the difference between the height of the plant in February and the height of the plant in April?



Month	Height (cm)
Jan	10
Feb	20
Mar	30
Apr	40
May	50
Jun	60
Jul	70

## Maths Activity 3:

Eva measured the temperature of a cup of tea every 30 minutes for 2 hours. The graph shows Eva's results.



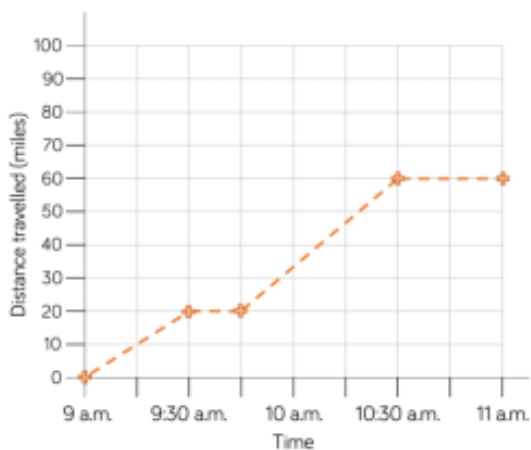
Eva says,



In the first 45 minutes the temperature of the tea had dropped by 20 degrees.

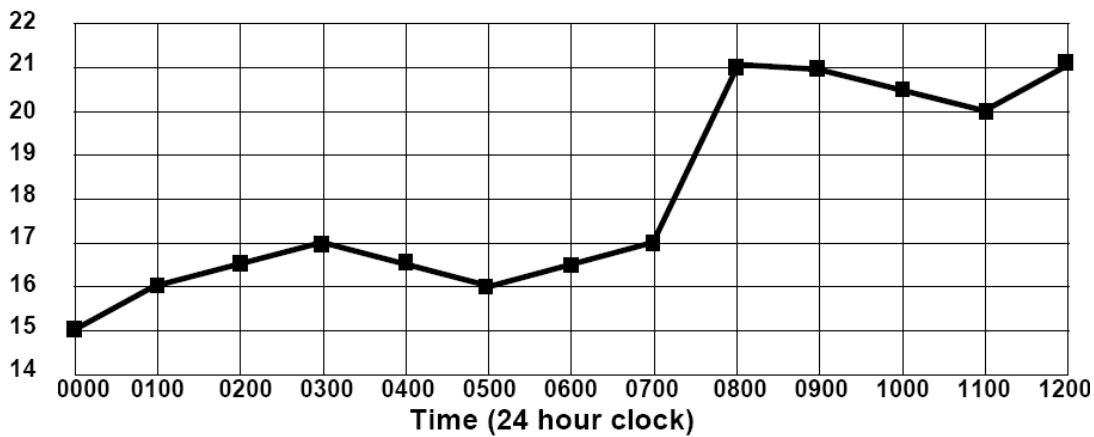
Do you agree with Eva?  
Explain why.

Write a story to match the graph.





Temp



This graph shows the temperature in a room over twelve hours. Answer the questions below.

- 1a) What was the lowest temperature recorded on the chart.
- 1b) What was the temperature at 3 o'clock am?
- 1c) What was the temperature at 11.00?
- 1d) Which hour shows the biggest rise in temperature?
- 1e) For how long was the temperature between 16 and 17 degrees?
- 1f) Can you estimate the temperature at 07.30?
- 1g) Can you estimate the temperature at 10.00?