Varied Fluency
Step 3: Introducing Line Graphs

National Curriculum Objectives:

Mathematics Year 4: (4S1) Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs
Mathematics Year 4: (4S2) Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs

Differentiation:

Developing Questions to introduce line graphs and continuous data using up to 3 recordings per graph, with increments of 1 or 2 on the y axis.
Expected Questions to introduce line graphs and continuous data using up to 5 recordings per graph, with increments of 1, 2 or 10 on the y axis, where most recordings are directly in line with the marked increments.
Greater Depth Questions to introduce line graphs and continuous data using up to 5 recordings per graph, with increments of 1, 2 or 10 on the y axis, where not all increments are marked and where recordings are sometimes between marked increments.
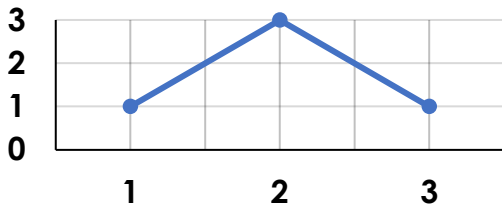
More Year 4 Statistics resources.

Did you like this resource? Don't forget to review it on our website.

1a. What is missing?

Height of a Ball Throw

3
2
1
0

   1   2   3

Use the checklist to make sure the line graph has all items:
- ❑ Title
- ❑ Axis Labels
- ❑ Scales

VF

1b. What is missing?

12
10
8
6

Height of Flower

Mon   Tues   Weds

Days
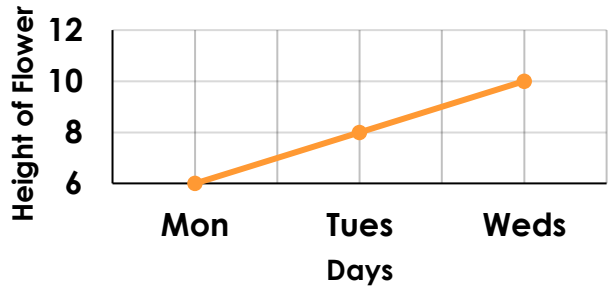
Use the checklist to make sure the line graph has all items:
- ❑ Title
- ❑ Axis Labels
- ❑ Scales

VF

2a. Use the line graph to fill the gaps.

Height of a Beanstalk

16
14
12
10

Height (cm)

Mon   Tues   Weds

Days
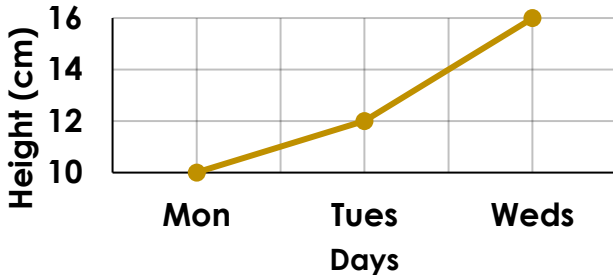
The beanstalk grew the most from

_____ to _____ .

VF

2b. Use the line graph to fill in the gaps.

Cost of Petrol

120
118
116
114

Price per Litre (pence)

2017   2018   2019

Year
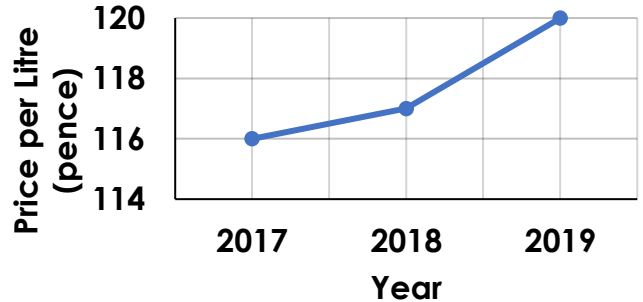
In 2019 petrol cost _____.
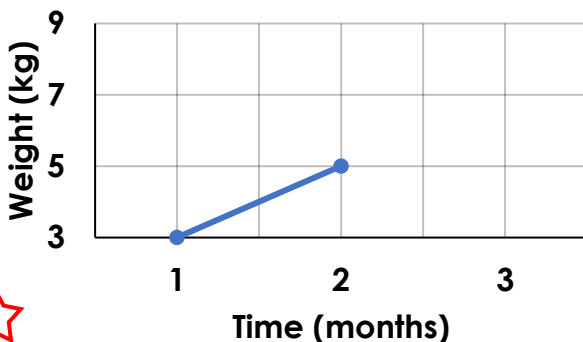
In 2017 petrol cost _____.

VF

3a. Use the data to complete the line graph.

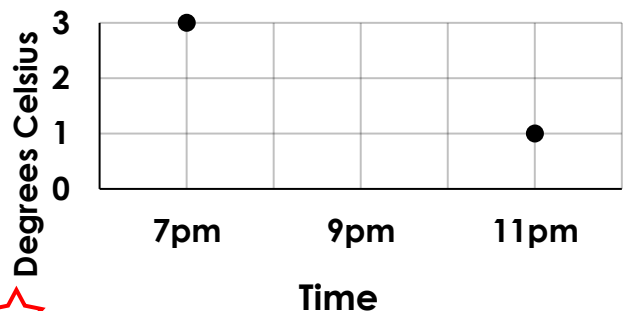| 1 month	2 months	3 months
3	5	7

Baby Aisha's Weight

9
7
5
3

Weight (kg)

1   2   3

Time (months)

VF

3b. Use the data to complete the line graph.

7pm	9pm	11pm
3°	2°	1°

Evening Temperatures

3
2
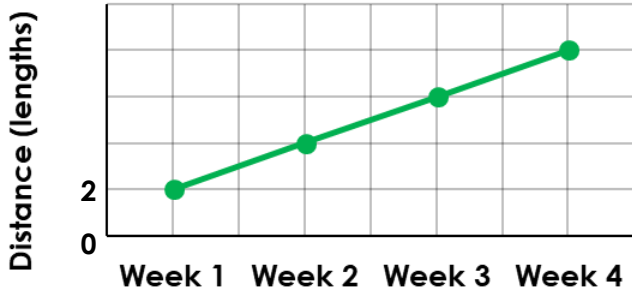1
0

Degrees Celsius

7pm   9pm   11pm

Time

VF

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Varied Fluency – Introducing Line Graphs – Year 4 Developing

Introducing Line Graphs

Introducing Line Graphs

4a. What is missing?

Distance Swum

Distance (lengths)

2

0

Week 1   Week 2   Week 3   Week 4

Use the checklist to make sure the line graph has all items:
- ❑ Y Axis Label
- ❑ X Axis Label
- ❑ Scales

E

VF

4b. What is missing?

Xander's Height
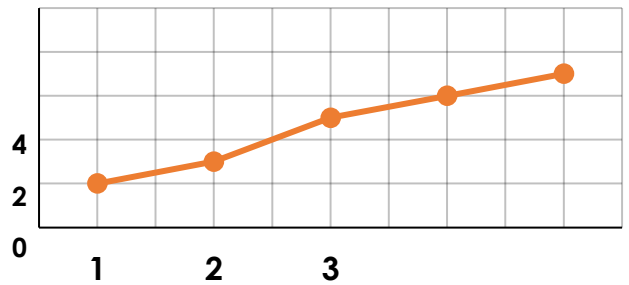
4

2

0

1   2   3

Use the checklist to make sure the line graph has all items:
- ❑ Title
- ❑ Axis Labels
- ❑ Scales

E

VF

5a. Use the line graph to fill in the gaps.

Length of Knitting

Length (cm)

10
8
6
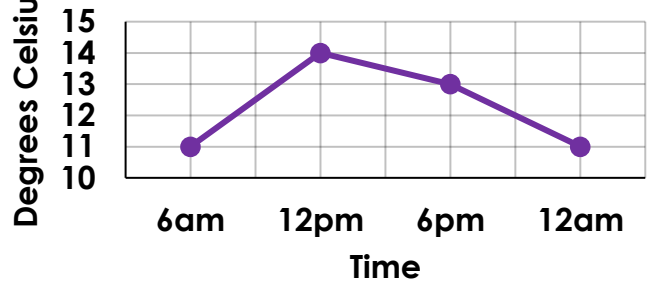4
2
0

5   10   20   30   40

Length of time (mins)
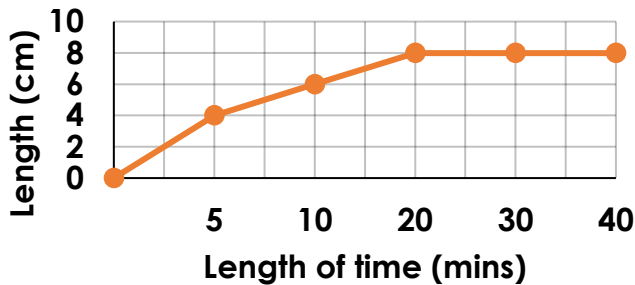
After 10 minutes the knitting was _____cm long. The knitting was 8cm long after _____ minutes.

E

VF

5b. Use the line graph to fill in the gaps.

Temperature

Degrees Celsius

15
14
13
12
11
10

6am   12pm   6pm   12am

Time

By 12pm the temperature had risen to _____ .

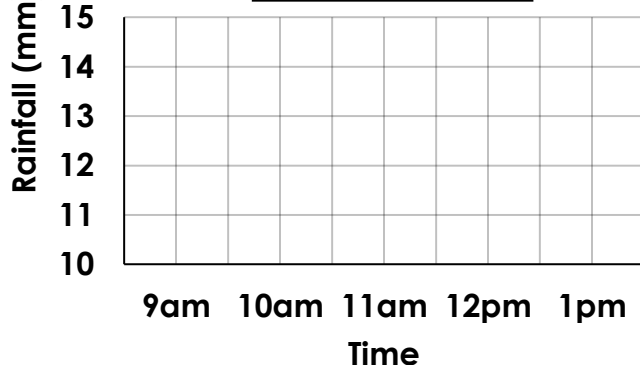By 12am the temperature had dropped to _____

E

VF

6a. Use the data to complete the line graph.

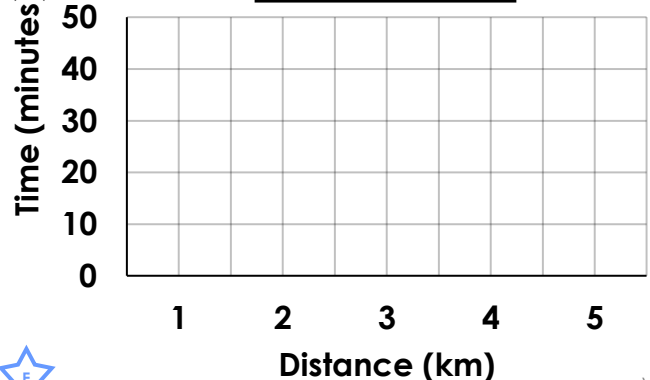| 9am	10am	11am	12pm	1pm
10	30	45	40	50

Amount of Rainfall

Rainfall (mm)

15
14
13
12
11
10

9am   10am   11am   12pm   1pm

Time

VF

6b. Use the data to complete the line graph.

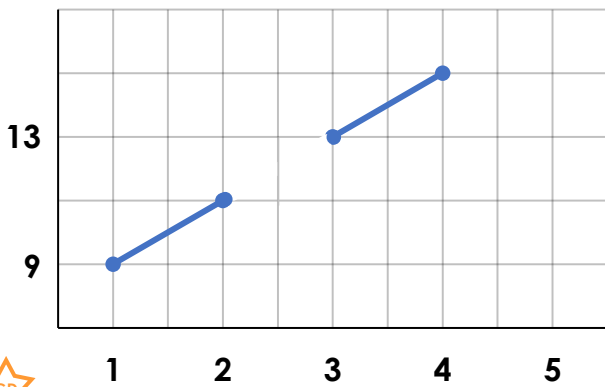| 1km	2km	3km	4km	5km
10	25	30	40	50

Distance Walked

Time (minutes)

50
40
30
20
10
0

1   2   3   4   5

Distance (km)

E

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Varied Fluency – Introducing Line Graphs – Year 4 Expected

Introducing Line Graphs

Introducing Line Graphs
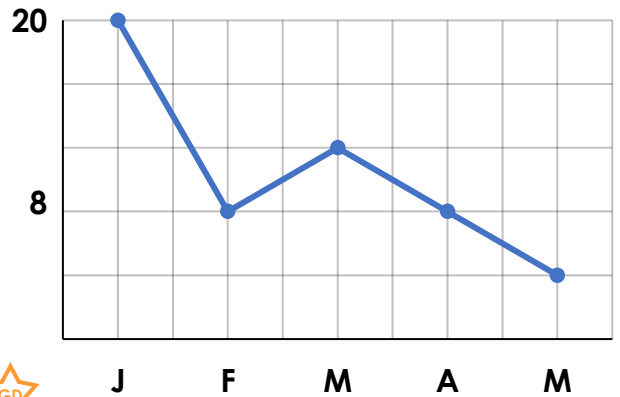
7a. What is missing?

Height of a Sunflower

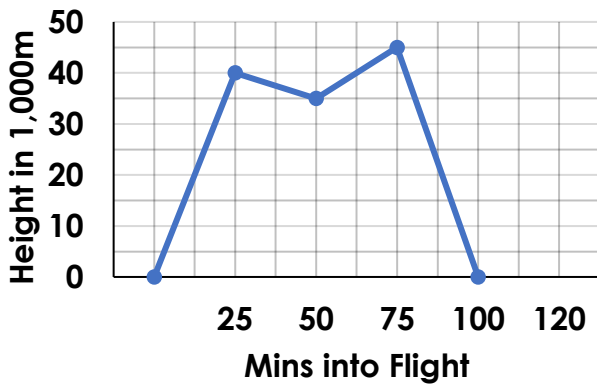### 7b. What is missing?

Cat's Weight

8a. Use the line graph to fill in the gaps.
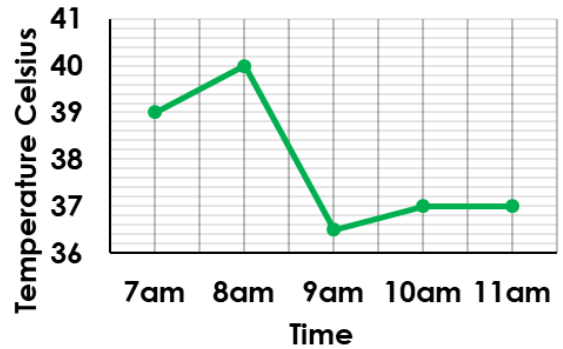
Height of Plane During a Flight

The flight lasted _____ mins. The plane reached a height of _____ m.

8b. Use the line graph to fill in the gaps.

Patient's Temperature

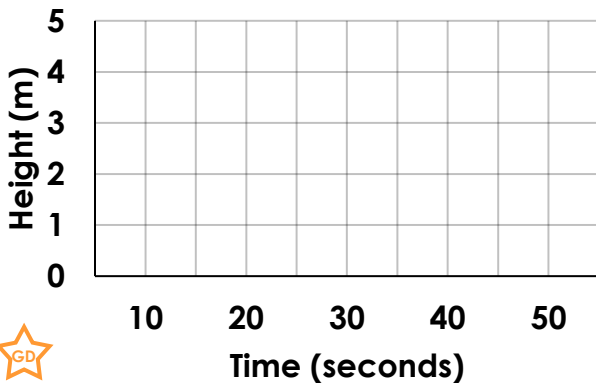The patient's temperature at 8.30am was _____°C. Between 8am and 9am the temperature dropped by _____°C.

9a. Use the data to complete the line graph.

Height (m)	1	2	3	2	1
Time (sec)	10	20	30	40	50

Height of a Football Kick

9b. Use the data to complete the line graph.

Time (sec)	1	2	3	4	5
Distance (m)	7	14	30	38	45

Length of Paving Laid
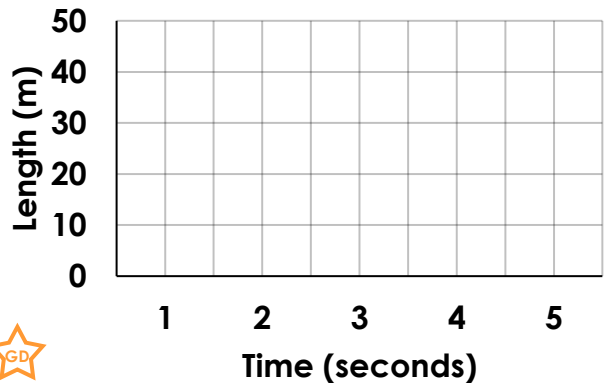
Varied Fluency
Introducing Line Graphs

Developing
1a. The axis labels are missing.
2a. Tuesday to Wednesday
3a. Line from 5kg to 7kg.

Expected
4a. The label for the x-axis and the scales on the y-axis are missing.
5a. 6cm, 20minutes
6a. Line graph that accurately represents the data given.

Greater Depth
7a. The line should be continuous through all points on the chart. The axis labels are missing and there are values missing on the scale.
8a. 100 minutes, 45,000m.
9a. Line graph that accurately represents the data given.

Varied Fluency
Introducing Line Graphs

Developing
1b. The title is missing.
2b. 120p, 116p
3b. The data for 9pm accurately plotted and straight lines connecting the points accurately.

Expected
4b. The axis labels and some values are missing on the scales.
5b. 14°C, 11°C
6b. Line graph that accurately represents the data given.

Greater Depth
7b. The axis labels and some values are missing.
8b. 38°C, 3.5°C
9b. Line graph that accurately represents the data given.

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Varied Fluency – Introducing Line Graphs **ANSWERS**