Varied Fluency
Step 4: 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 support using line graphs to solve comparison, sum and difference problems, using increments of 1 on the y axis. Using up to 5 recordings per graph.
Expected Questions to support using line graphs to solve comparison, sum and difference problems, using multiples of 2 and 10 for scale intervals, with some use of half intervals. Using up to 8 recordings per graph.
Greater Depth Questions to support using line graphs to solve comparison, sum and difference problems, using multiples of 2, 5 and 10 for scale intervals, where not all increments are marked, use of half intervals. Using up to 8 recordings per graph.
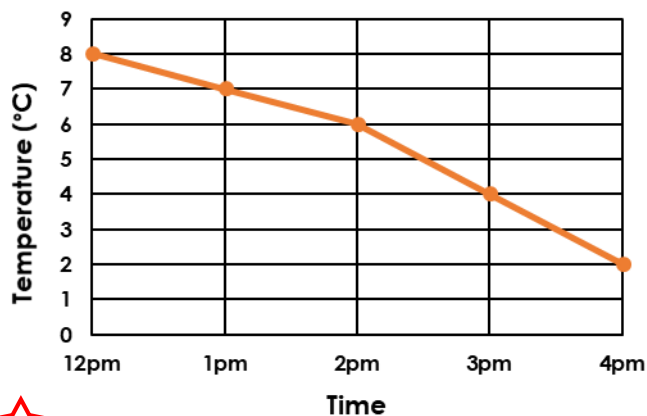
More Year 4 Statistics resources.

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

Line Graphs

1a. How many degrees did the temperature drop between 1pm and 3pm?
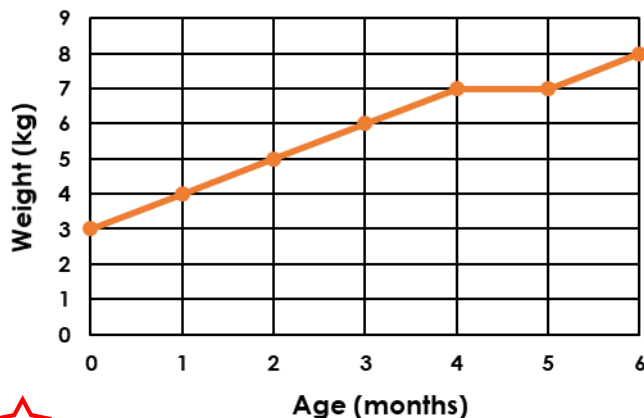
Temperature in January

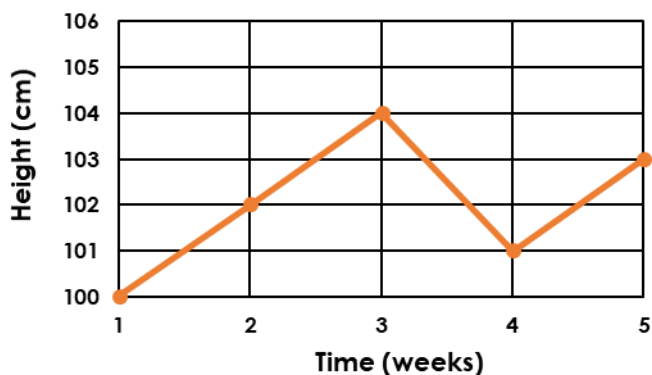**1b.** How much did the baby's weight increase between 2 months and 5 months?

Weight of a baby

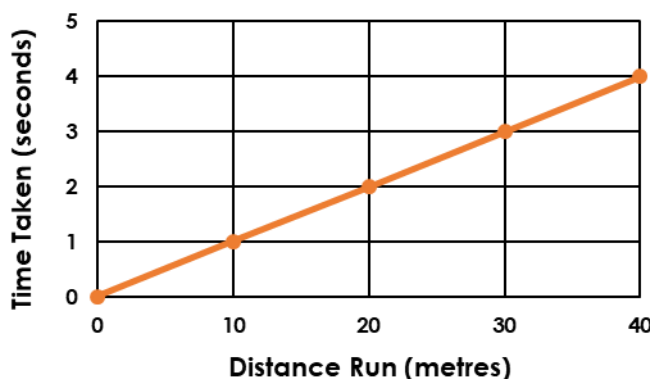**2a.** True or false? The height at 3 weeks was 3cm more than it was at 2 weeks.

Height of a Hedge

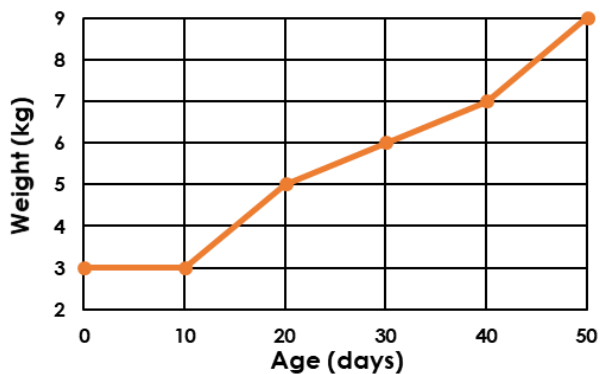**2b.** True or false? The distance at 2 seconds was less than it was at 1 second.

Speed of an Athlete

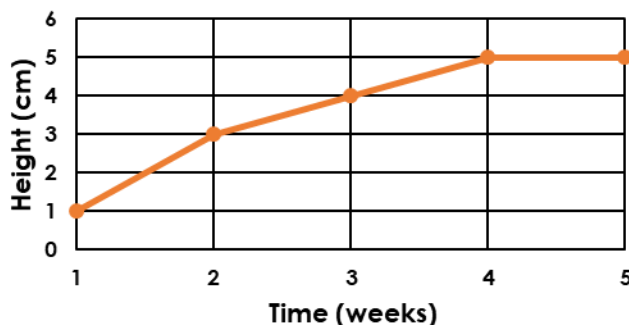**3a.** How many kg did the lion cub gain between 10 days and 40 days?

Weight of a Lion Cub

5kg	4kg

3b. How many centimetres did the flower grow between week 1 and week 4?

Height of a flower

4cm	5cm

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Varied Fluency – Line Graphs – Year 4 Developing

Line Graphs

Line Graphs

4a. How many seconds did it take to run from 20m to 50m?

Speed of a Runner
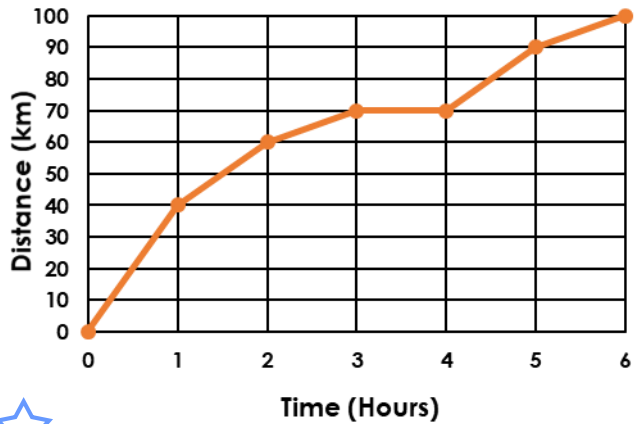

4b. How many kilometres did the boat travel between 3 and 5 hours?
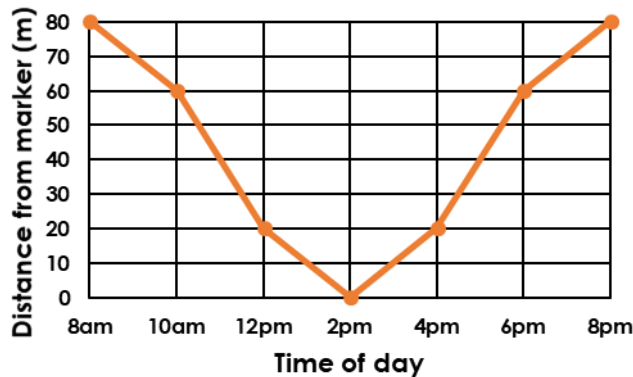
Distance Travelled

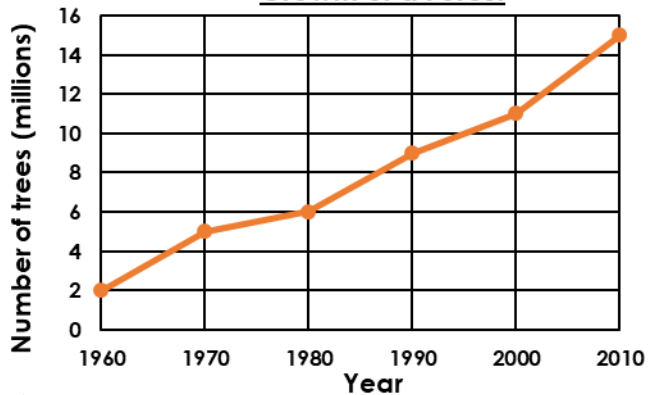**5a. True or false? The distance the tide had travelled at 10am was twice what it was at 4pm.**

Tide Changes on a Beach

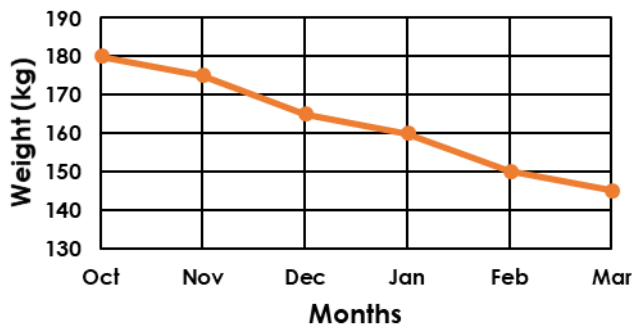**5b. True or false? The number of trees in 1990 was double the number of trees in 1960.**

Growth of a Forest

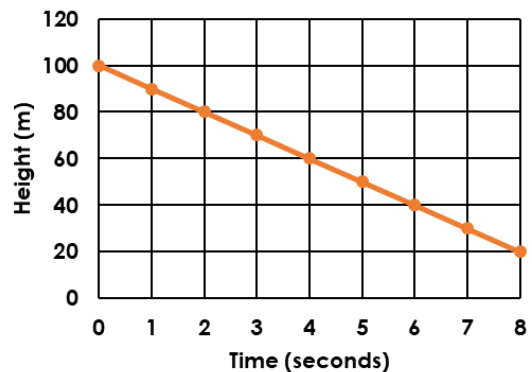**6a. How many kilograms did the bear lose between October and March?**

Weight of a Hibernating Bear

| 180kg | 50kg | 35kg | 130kg |

6b. How many metres did the ball drop between 0 and 5 seconds?

Speed of a Ball Dropped from a Tower

| 14m | 50m | 12m | 10m |

Varied Fluency – Line Graphs – Year 4 Expected
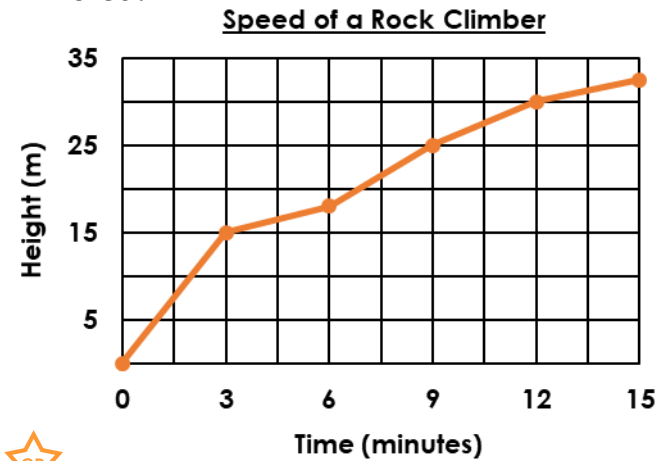
Line Graphs

Line Graphs

7a. How many centimetres did the child grow between Year 3 and Year 6?

Height of a Child
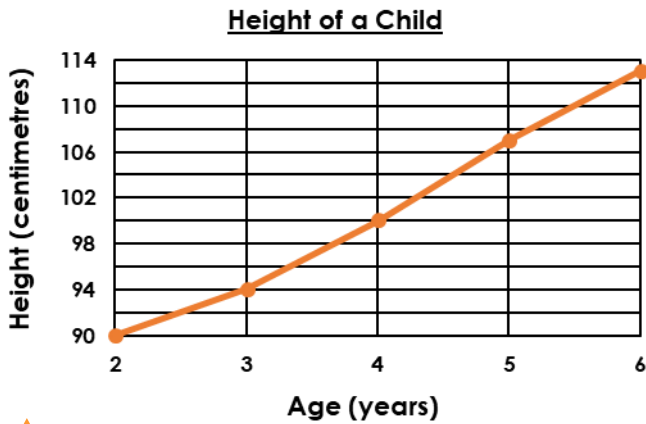
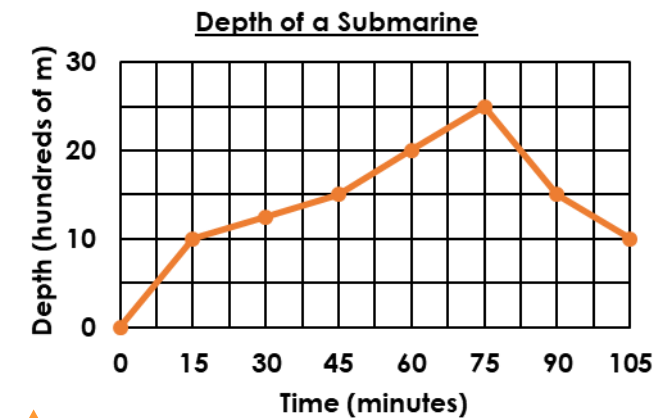**7b.** How many metres did the climber travel between 3 minutes and 12 minutes?

Speed of a Rock Climber

8a. True or false? The amount of milk produced in week 6 was twice what it was in week 2.

Production of Milk
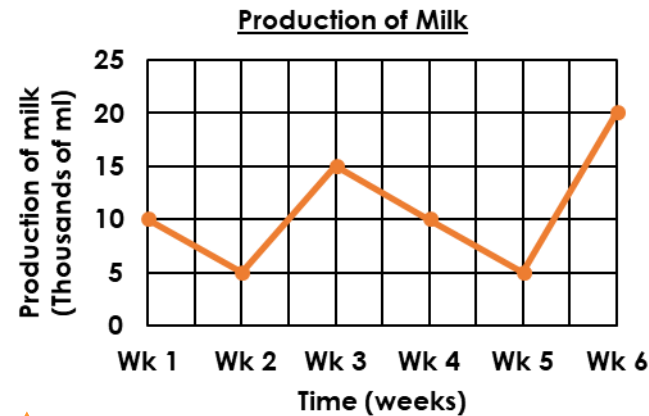
8b. True or false? The depth dived after 60 minutes was double what it was at 15 minutes.

Depth of a Submarine

9a. How many beats per minute did the heart reduce by between 2 and 6 minutes?

Heart Rate While Exercising
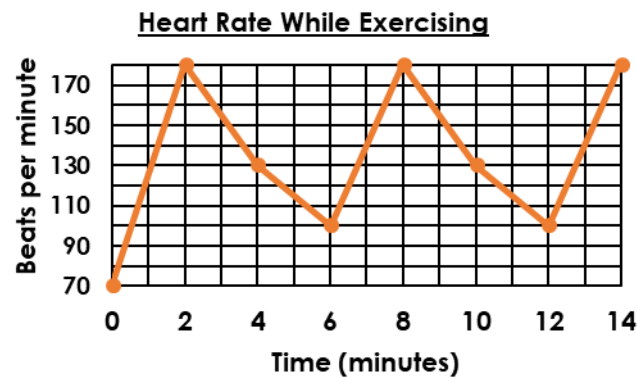
| 60 | 80 | 90 | 70 |

9b. How many metres did the boomerang travel between 0 and 5 seconds?

Measuring a Boomerang Throw
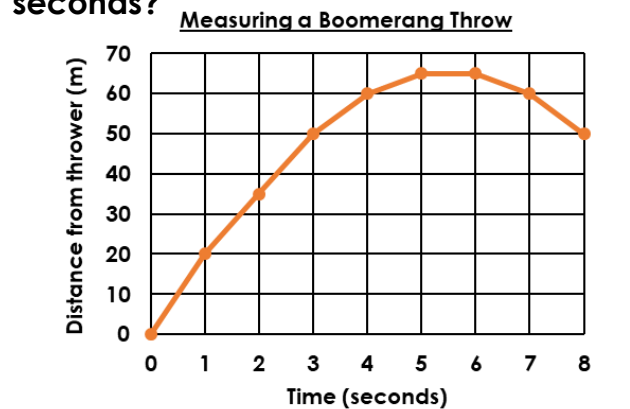
| 55m | 70m | 75m | 65m |

Varied Fluency
Line Graphs

Developing
1a. 3 degrees
2a. False; it was 2cm more at 3 weeks than 2 weeks.
3a. 4kg

Expected
4a. 5 seconds
5a. False; it was 60km at 10am and 20km and 4pm.
6a. 35kg

Greater Depth
7a. 19cm
8a. False; it was 20,000ml in week 6 and 5,000ml in week 2.
9a. 80 beats per minute

Developing
1b. 2kg
2b. False; the distance was greater at 2 seconds.
3b. 4cm

Expected
4b. 20km
5b. False; there were 2 million trees in 1960 and 9 million in 1990.
6b. 50m

Greater Depth
7b. 15m
8b. True
9b. 65m

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Varied Fluency – Line Graphs ANSWERS