

Line Graph Adventure

Name: **ANSWERS**



VICTORIAN BIOSCIENCE
EDUCATION CENTRE

Instructions

1. Roll two dice and calculate the sum. Use table one to determine the events that occurred when Craig walked to school.
2. Record these events in table two and calculate how Craig's heart rate changed over his journey to school.
3. Complete the line graph on page two by moving the blue lines to show how Craig's heart rate changes over his walk to school.

Table One: Events

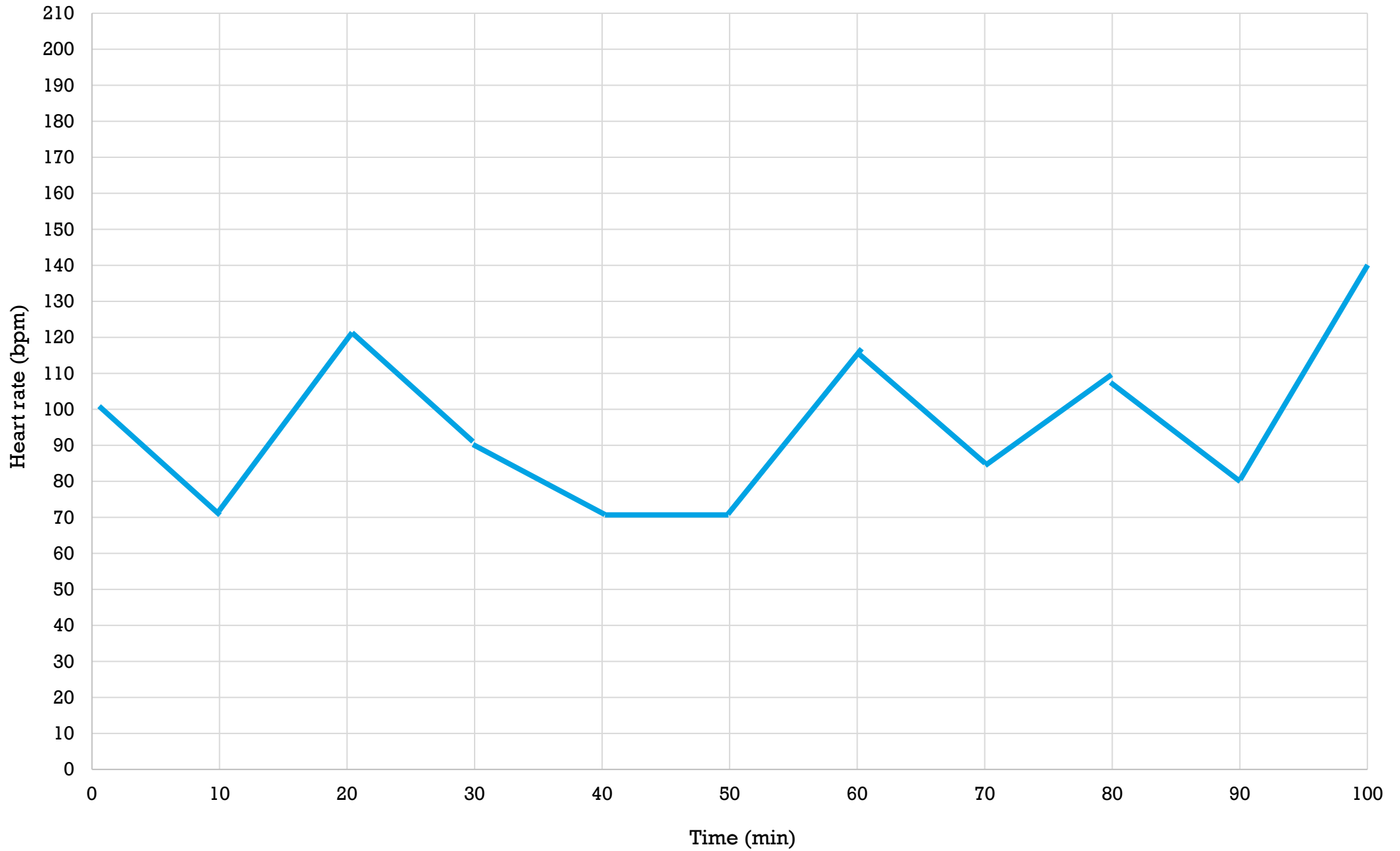
Dice sum	Event	Heart rate change (bpm)
2	Chased by a dog	+20
3	Stop and talk to a friend	-20
4	Swooped by a magpie	+15
5	Stopped at a don't walk sign	-10
6	Walk up a hill	+11
7	Help an old lady with heavy bags	+18
8	Buy a drink at a shop	-17
9	Pat a friendly dog	-15
10	Wait for the lolly pop lady	-20
11	Run to catch up to friend	+15
12	No event	No change

Table Two: Events that occurred on Craig's walk to school

Minute	Dice sum	Heart rate change (bpm)	Heart rate (bpm)
0	-	-	100
10	Dice sum	HR change	Heart rate
20	Dice sum	HR change	Heart rate
30	Dice sum	HR change	Heart rate
40	Dice sum	HR change	Heart rate
50	Dice sum	HR change	Heart rate
60	Dice sum	HR change	Heart rate
70	Dice sum	HR change	Heart rate
80	Dice sum	HR change	Heart rate
90	Dice sum	HR change	Heart rate



Heart Rate Change



Line Graph Adventure Questions

a) What was Craig's highest heart rate?

Based on student results

b) At what time was Craig's heart rate the lowest?

Based on student results

c) Describe the type of events made Craig's heart rate increase?

Events where he was active or excited.

d) Describe the type of events made Craig's heart rate decrease?

Events where he was stationary or relaxed

e) How do you think actual changes in a person's heart rate would differ from the ones that you calculated in this activity?

A person's heart rate would regularly return to resting levels (60-100bpm) during different events. Their line graph would therefore appear to be a much steadier line with less sharp increases and rapid declines.

Problem solving

Are you able to calculate Craig's average heart rate for his walk to school?

Things to consider

- How do you calculate an average?
- How many heart rate readings were represented on the graph?
- What was the total of all your heart rate readings?

Further activity

Design your own line graph adventure in a different situation? Ideas to consider are walking through the jungle, a day at the beach.

After you complete your adventure get a partner test it out!

