Texting Olympics

You need: the texting time results (see copymaster), stopwatches , a computer spreadsheet/graphing program (if available), a classmate

Motutapu School is holding a Texting Olympics to find out who has the fastest thumb in the school. Events include:

> i. Sprint: Texting a short phrase
>
> ii. Marathon: Texting a longer message
>
> iii. Hurdles: Texting a message that includes numbers, symbols, and punctuation

The text for the events is:

Sprint	Marathon	Hurdles
Call me	Please pick me up after school today. Basketball practice ends too late for me to catch the bus.	Guess what?? I got 90% in my maths test!!!

ACTIVITY ONE

1. If your class were trying out for these events, what details would you need to sort out before you started?

How will we time the events?

Why can't we use text short cuts?

2. The students in Taylah's class record their times in minutes, seconds, and hundredths of a second.
Convert their texting time data into seconds, rounding it to the nearest tenth of a second. (If you are using a computer, look for ways to use your spreadsheet as efficiently as possible.)
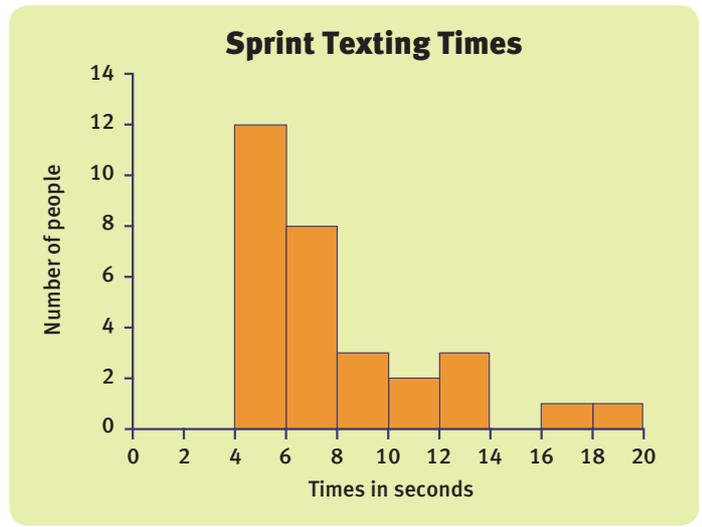
I'll make better sense of this data if I graph it.

3. Taylah and Quinten enter their class's sprint times into a stem-and-leaf graph. Then they put the part-seconds in order before they analyse the data.

a. Complete their final graph:

Sprint times

|	
4	0 1 3 …
5	
⟋⟍	
17	
18	

Seconds
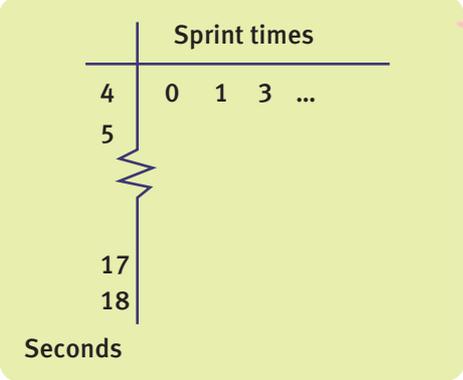
b. Quinten says that the graph "clearly shows" that 8 students are the champion sprinters in the class. Taylah doesn't agree. What could you say to support her?

4. Next, Taylah and Quinten create a histogram to see what it can tell them about the sprint times.

a. Use this graph to complete the observations below:

Sprint Texting Times

Number of people (vertical axis: 0, 2, 4, 6, 8, 10, 12, 14)

Times in seconds (horizontal axis: 0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20)

- Very few students …
- Almost half the students …
- No students …
- Most students …
- More students …

b. Which graph (the histogram or the stem-and-leaf graph) do you think is easier to understand or gives more information? Discuss with a classmate.

1. a. The scatter plot below, created on a spreadsheet program, shows the marathon and hurdles times for two students. Use the data from your results sheet (see **Activity One,** question **2**) to identify who the students are.

Marathon and Hurdles
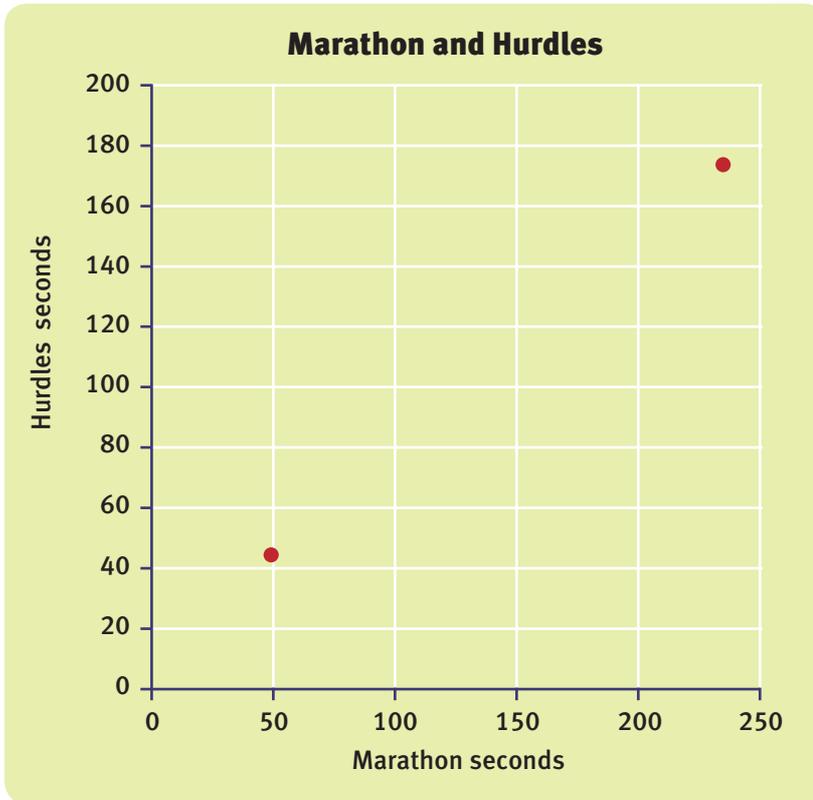
b. Recreate the graph so that it shows the marathon and hurdles times for all the students in the class.

2. Use your graph and the data from your spreadsheet to identify:
    a. students who are particularly slow in both events
    b. students who do much better in one event than the other
    c. the student who is the overall marathon and hurdles champion
    d. the 6 students who are the best performers across the 2 events.

3.

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> The Marathon and Hurdles graph shows that those who did well in the marathon usually did well in the hurdles.

Discuss with a classmate what evidence there is to support or argue against Quinten's view.

1. Each class at Motutapu School can enter a team of 5 in the Texting Olympics. Each team member will compete in all 3 events.
Taylah thinks that a stacked bar graph (like the sample below) could help them decide who should be in their class's team:

Texting Olympics
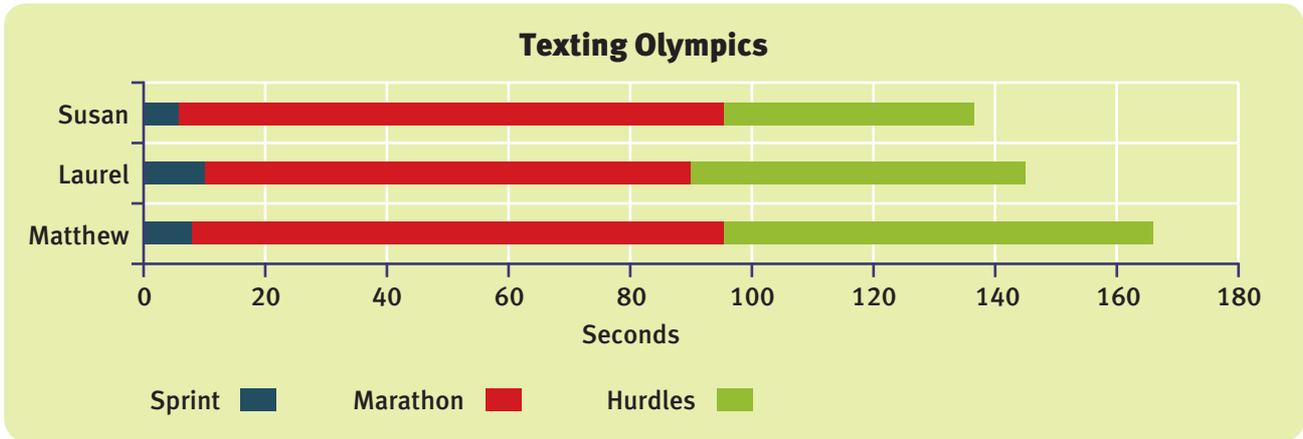
a. Using your data from **Activity One,** question **2,** create a stacked bar graph that shows the data for all the students.
b. Based on this graph, who should be in the class team?

2. Quinten thinks that a points system is a better way of deciding who should be in their class Texting Olympics team: the winner of an event gets 5 points, the next person gets 4 points, and so on.
a. Using this system, who should be in the class team?
b. What are the advantages and disadvantages of Taylah's and Quinten's systems?
c. Who should be the reserve and why?

Choose one of the investigations below (or develop a different one) and carry it out. Plan it carefully and think about how you will collect your data.

1. Investigate which is faster: texting language (for example, c u l8r) or predictive texting (the cellphone predicts the word or words you may want to use).

2. Who has the fastest thumb in your class?

3. Is gender a factor in texting speed?

4. Are some types of cellphone better than others for speed texting?
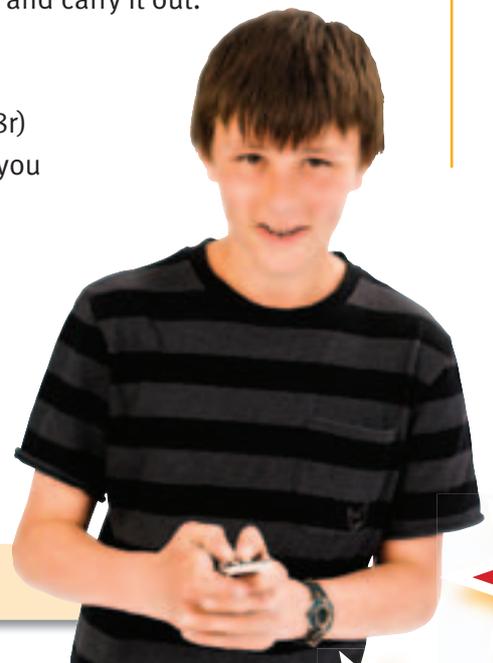
Focus   Investigating multivariate measurement data